

## Department of Nutrition and Dietetics

# The Gluten-Free Diet

**This information should only be used by patients with Coeliac Disease or Dermatitis Herpetiformis and should only be followed with supervision from a Registered Dietitian.**

### What is Coeliac Disease?

Coeliac Disease is an auto-immune disease, which means that the body produces antibodies that attack its own tissues. In Coeliac Disease this is triggered by eating gluten, a protein found in the cereals; **wheat, rye and barley**.

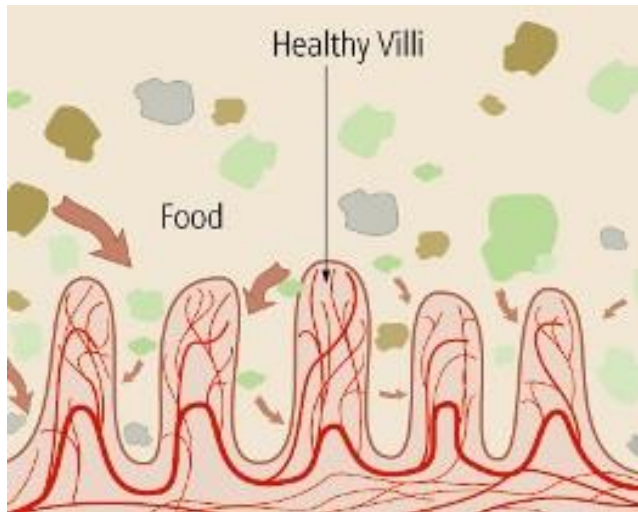
When people with Coeliac Disease eat foods containing gluten, the lining of the small intestine (the gut) becomes damaged. Tiny finger-like projections called villi covering the intestine (gut) lining become inflamed and then flattened, leaving less surface area to absorb nutrients. This can lead to various symptoms, which are discussed below. When gluten is removed from the diet, these villi are able to grow back and take on their normal function.



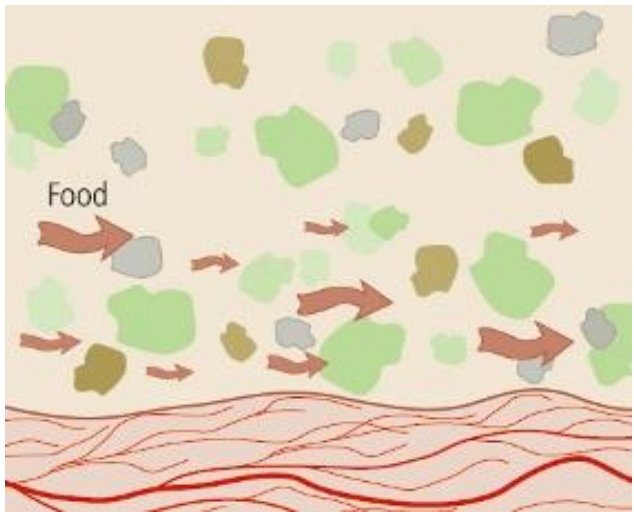
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### Coeliac disease under a microscope

This picture shows the villi of a healthy gut and normal nutrient absorption.



This picture shows flattened villi and poor nutrient absorption from a person with coeliac disease.



### Symptoms of Coeliac Disease

The type of symptoms can vary from person to person, and some people may not even develop any symptoms. The most commonly occurring symptoms are:

- Weight loss;
- Failure to thrive or faltering growth (in children);
- Children are sometimes particularly moody, miserable or irritable;
- Anaemia, deficiency of iron, vitamin B12 and/or folic acid;
- Bloating, abdominal pain;
- Excess flatulence (wind);
- Diarrhoea;
- Tiredness or weakness;
- Headaches;
- Osteoporosis;
- Ataxia (inability to co-ordinate voluntary muscular movements);
- Skin rash (Dermatitis Herpetiformis).

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Coeliac Disease cannot be cured, but it can be managed effectively by following a life-long gluten-free diet.

Coeliac Disease does run in families. Overall, about 1 in 10 blood relatives of people with Coeliac Disease will themselves have the condition.

### **Dermatitis Herpetiformis**

Dermatitis Herpetiformis is an itchy blistering of the skin due to gluten sensitivity. This sensitivity also affects the small intestine in the majority of patients, giving rise to Coeliac Disease. Following a strict life-long gluten-free diet will help to resolve the skin rash.

### **How is it diagnosed?**

There are specific blood tests used to diagnose Coeliac Disease. These look for the antibodies that the body makes in response to eating gluten. The most accurate blood tests for Coeliac Disease are:

- Tissue transglutaminase antibody (shortened to 'tTGA' or 'TTG');
- Endomysial antibody (shortened to 'EMA').

The test used depends on the laboratory performing the test; they may measure one of the antibodies, or sometimes both.

Your doctor may also have requested a gut (small intestine) biopsy. **It is important to continue eating gluten whilst undergoing the tests to avoid a false negative result.** If you have any concerns about testing, the best thing to do is to talk with your healthcare team.

### **Diagnosis in Children**

Children who have symptoms of coeliac disease and a blood test that shows high levels of antibodies (TTG or EMA) may not need to have a biopsy to be diagnosed with the disease. Instead, a second antibody blood test followed by a genetic test can be used to confirm the diagnosis.

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### **What do I need to do?**

After diagnosis it is important to follow a gluten-free diet **at all times** to stay healthy. Once you have begun a gluten-free diet the gut starts to repair immediately. Many people feel much better within weeks of starting the diet, though some symptoms may take longer to resolve. However, it can take between 6 months and 2 years for complete recovery of the gut.

### **How do I find gluten-free foods?**

Gluten is a protein that's found in the cereals: **wheat, rye and barley**, so any foods containing these and ingredients derived from them, need to be avoided and replaced with suitable alternatives.

The gluten-free diet consists of 3 main food categories:

#### **1. Foods that are naturally gluten-free:**

- Rice and potatoes;
- Fruit and vegetables;
- Pulses (peas, beans and lentils);
- Plain nuts and seeds;
- Polenta, quinoa, millet and corn (maize);
- Unprocessed meats and fish;
- Milk, cheese, most yoghurts and eggs.

#### **2. Gluten-free substitute products:**

##### **Prescribable products:**

Special gluten-free foods can replace those that naturally contain gluten once you are medically diagnosed with Coeliac Disease, you are entitled to receive basic products such as bread and flour mixes on prescription from your GP. More information can be found later in this diet sheet.

Over the counter/Supermarket products:

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Most supermarkets have a 'free-from' aisle where you will find foods that are suitable for people with a variety of different food intolerances. Take care: not all foods in this section are gluten-free.

Gluten-free foods will also be available elsewhere in the supermarket among the different sections. Health food shops often sell specialist gluten-free foods, and many products can now be purchased via the internet or mail order— see the Coeliac UK website or ask your Dietitian for further details.

### **3. Gluten free manufactured and processed foods:**

Many manufactured foods will contain gluten, so make sure you check the product ingredients on the food label carefully. These foods include obvious sources of **wheat, rye and barley**; for example: bread, most breakfast cereals, cakes and biscuits. However gluten can be found in a number of foods where you may not expect to find it, for example: beer, sausages, soups, seasonings and sauces. The Coeliac UK Food and Drink Directory (available printed and electronically) contains a list of manufactured products that are suitable for those following a gluten-free diet. This directory is available as part of your membership pack on joining Coeliac UK. Information on becoming a member of Coeliac UK is included later in this leaflet.

### **How do I get gluten-free products on prescription?**

Some gluten-free products such as bread and flours mixes are all available on prescription.

Unless you qualify for free prescriptions you will be charged for every type of gluten-free food you order. To save money you can buy a pre-payment certificate which lasts three or twelve months, these can be purchased on line at

<https://services.nhsbsa.nhs.uk/buy-prescription-prepayment-certificate/start>

Or over the phone on 0300 330 1341

Children under 16 years are entitled to free prescriptions, and those age 16-18 years in full time education are also exempt from payment. For further information on people who are exempt from prescription charges please visit

<https://www.nhsbsa.nhs.uk/help-nhs-prescription-costs/free-nhs-prescriptions>

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Further information about prescriptions can be found in your gluten-free pack, along with information from some companies who produce prescribable gluten-free foods.

### **What Labels mean:**

The key to having a gluten-free diet is being a good label reader. Food manufacturers now have to legally comply with guidelines on gluten free labelling introduced in January 2012.

**Gluten-free:** products with a gluten level less than 20ppm (parts per million). Foods with this labelling are naturally gluten-free, specialist products or uncontaminated oats.

**Very low gluten:** products with a gluten level of between 20 and 100 ppm. This is not frequently seen on labels in the UK but is more common in Europe.

**All patients with Coeliac Disease can eat food labelled gluten-free.**

**Most** patients with Coeliac Disease can eat food labelled **very low gluten**. A small number of people can only tolerate foods classed as 'gluten-free'. If you are still having symptoms or your antibodies remain high despite following the dietary advice, you may need to exclude very low gluten foods. Your Dietitian can discuss this with you.

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### Allergen Labelling

In December 2014 allergen labelling laws changed. Allergen boxes have now been removed from packaging. Instead 14 allergens must be highlighted on the ingredients list in either bold, italics or underlined.

**All cereals containing gluten** must now be highlighted so **wheat, rye and barley** will be highlighted. Take care to look for these cereals names rather than the word gluten which has been phased out.

INGREDIENTS
Water, Carrots, Onions, Red Lentils (4.5%) Potatoes, Cauliflower, Leeks, Peas, Cornflower, <b>Wheat</b> flour, Cream ( <b>milk</b> ), Yeast Extract, Concentrated Tomato Paste, Garlic, Sugar, <b>Celery</b> Seed, Sunflower Oil, Herb and Spice, White Pepper, Parsley
ALLERGY ADVICE
For allergens, see ingredients in <b>bold</b>

### What about the food label stating ‘may contain’?

If there is a chance that contamination with an allergen ingredient has occurred the product label may also state:

- May contain traces of gluten;
- Made on a line handling wheat;
- Made in a factory also handling wheat.
- Not suitable for people with coeliac disease due to manufacturing methods.

When you see one of these statements on a product, the manufacturer has decided that there is a risk that the product could be contaminated with gluten.

If the product is not listed in the Coeliac UK food and drink directory you can also contact the manufacturer directly if you would like further information on the suitability of the product.

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### The crossed grain symbol

Coeliac UK's crossed grain symbol also indicates that a food is gluten-free when it appears on packaging.



**Further information on the allergen labelling laws can be obtained from the Food Standards Agency [www.food.gov.uk](http://www.food.gov.uk) or coeliac UK [www.coeliac.org.uk](http://www.coeliac.org.uk).**

**Codex Standards:** Codex Alimentarius is a series of international standards for food and agricultural products. They help ensure consumer protection internationally.

### Gluten-free Codex wheat starch:

Codex wheat starch is a specially manufactured wheat starch which is washed so it has a level of gluten within the Codex standard (20 ppm or less). Codex wheat starch is used by some manufacturers who produce gluten-free foods as it improves the taste and texture of the food. The majority of people with Coeliac Disease can tolerate Codex wheat starch. These products will, however, be labelled as containing wheat.

### Barley Malt extract:

Foods that contain barley malt extract in smaller amounts can be eaten as part of a gluten free diet. Barley malt extract is a flavouring often added in small amounts to breakfast cereals and chocolates. However, any foods that contain barley malt extract will be labelled and emphasised in the ingredients list as containing barley and you will not be able to tell from the ingredients list how much has been used.



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In December 2020 Coeliac UK advised they were no longer listing products in the food and drink directory containing barley malt extract or barley malt vinegar **unless** they are labelled gluten free.

If you see barley malt extract listed in a product that is not labelled gluten free or not listed as suitable by Coeliac UK then you will need to contact the Coeliac UK helpline on 0333 332 2033 or contact the manufacturer directly for more information.

**Pure barley malt vinegar**: is produced from barley. However the processing involved removes the barley protein and therefore gluten from the final product, making it suitable for people with Coeliac Disease.

### **What about oats?**

Oats contain a protein which is similar to gluten. Gluten-free oat products are tolerated by most people with coeliac disease however care must be taken as most oat products are contaminated with wheat, rye or barley. Some manufactures are now producing gluten-free oat products and these are clearly labelled as gluten-free. Oats and oat products not labelled gluten free should be avoided.

A small number of people with Coeliac Disease are still sensitive to gluten-free oats. If you are following a gluten-free diet and having gluten-free oats and you are still having symptoms, discuss this with your health professional.

### **Coeliac UK**

Coeliac UK is a charity working for people with Coeliac Disease and Dermatitis Herpetiformis. It is recommended that you become a member of this organisation. If you become a member you will also have access to the members section of their website, receive copies of their quarterly magazine containing information on recipes, new products and health and details of local group membership.

You can join coeliac UK online Coeliac UK at [www.coeliac.org.uk](http://www.coeliac.org.uk), or contact them on their helpline number if you do not have access to the internet,

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Coeliac UK helpline number: 0333 332 2033

Coeliac UK publishes an annual Food and drink Directory which lists suitable gluten-free products plus information on prescribable products. It is important that you update your Food and Drink Directory monthly as manufacturers often change ingredients. This can be done online, by post, telephone or e-mail.

### **Coeliac UK - Gluten free Apps**

Coeliac UK has 2 apps that can be downloaded to help you with your gluten free diet; some parts of the apps can only be downloaded if you are a member of Coeliac UK.

The different apps work on iPhone 4 and above and also on android smart phones; they are not available for Windows phones or Blackberry smartphones at present. A number of features require good 3G or 4G access or Wi-Fi access. Further information is available on the Coeliac UK website if you wish to download the apps to iPads or iPods.

Apps can be downloaded from the Apple store (iPhone) or Google Play store (Android)

### **Gluten Free on the Move**

Anyone can download the app and use its free services which include:

- A label guide to help you understand food labelling,
- Gluten free checklist,
- Eating out tips,
- The latest news from Coeliac UK, including food alerts.

Membership only services include:

- Coeliac UK Food and Drink Directory,
- The ability to scan barcodes on products to see if they are listed in the Directory,
- Coeliac Venue Guide with over 7,000 venues.

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### **Gluten Free Food checker**

This is a membership only app so you will need your Coeliac UK log in details. This app works differently to 'Gluten free on the move' app as it focuses solely on food; both apps can run side by side.

Features on this app:

- A barcode scanner
- Lists of ingredients and nutritional information for products
- Readymade product lists
- Coeliac UK's new labelling video to help you choose make choices in the mainstream supermarket aisles.
- If you also have other dietary requirements, you can update your food preferences profile by choosing from 14 allergen options, and filtering products that don't contain those products.

### **Food Checklists**

The following check lists can help you to start following a gluten-free diet. For the foods listed in the "Need to check" section you will need to check the label carefully or consult your Coeliac UK Food and Drink Directory to see if the one you have selected is gluten-free.

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The following table gives you some more information about foods that are gluten-free and those that are not.

<b>Gluten-free</b>	<b>Need to check</b>	<b>Not gluten-free</b>
<p><b>Cereals and flour</b> Corn, rice, rice flour, arrowroot, amaranth, buckwheat, millet, teff, quinoa, sorghum, soya flour, potato starch, modified starch, potato flour, sago, tapioca, cassava, urd/urid flour, flax, hemp.</p> <p>Specially manufactured gluten-free flours and mixes.</p>	<p><b>Cereals and flour</b> Flavoured savoury rice products, cornflour, polenta (cornmeal), buckwheat pancakes, gram flour.</p>	<p><b>Cereals and flour</b> Wheat, bulgar wheat, durum wheat, wheat bran, wheat rusk, wheat starch, wheat flour, modified wheat starch, semolina, cous cous, barley, barley malt, barley flour, rye, rye flour, triticale, kamut, spelt.</p> <p>Yorkshire puddings and pancakes. Dumplings, pakoras, bhajis</p>
<p><b>Bread, cakes and biscuits</b> Gluten-free breads, biscuits, cakes, pizza bases, rolls, crackers and flour mixes.</p>	<p><b>Bread, cakes and biscuits</b> Meringues, macaroons, ricecakes, corncakes. Oat cakes</p>	<p><b>Bread, cakes and biscuits</b> All breads, chapattis, biscuits, crackers, cakes, pastries, scones, muffins, pizza bases made from wheat, rye or barley flour.</p>
<p><b>Pasta and noodles</b> Corn pasta, rice pasta, specially manufactured gluten-free pasta.</p>	<p><b>Pasta and noodles</b> Rice noodles</p>	<p><b>Pasta and noodles</b> Fresh, dried and canned wheat pasta and noodles.</p>
<p><b>Breakfast cereals</b> Gluten-free muesli and cereals, buckwheat flakes.</p>	<p><b>Breakfast cereals</b> Cornflakes, Rice Krispies, Frosted Flakes, Honey Nut Cornflakes</p>	<p><b>Breakfast cereals</b> Wheat based cereals e.g. Weetabix, Bran Flakes, All Bran, muesli</p>

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<b>Gluten-free</b>	<b>Need to check</b>	<b>Not gluten-free</b>
<b>Meat and poultry</b> All fresh meats and poultry, smoked meats, cured pure meats, plain cooked meats.	<b>Meat and poultry</b> Meat pastes, pates, sausages, burgers, ready cooked chicken or meats with flavourings or seasonings, ready meals, canned meat products, foods in sauces.	<b>Meat and poultry</b> Meat and poultry cooked in batter or breadcrumbs, faggots, rissoles, haggis, breaded or crumbed ham, meat pies and pasties.
<b>Fish and shellfish</b> All fresh fish and shellfish, smoked, kippered and dried fish, fish canned in spring water, oil or brine.	<b>Fish and shellfish</b> Fish in sauce, fish pastes and pates, ready meals.	<b>Fish and shellfish</b> Fish in batter or breadcrumbs, fish cakes, taramasalata, fish fingers.
<b>Vegetarian alternatives</b> Plain tofu, textured vegetable protein, plain soya mince or chunks.	<b>Vegetarian alternatives</b> Marinated tofu	<b>Vegetarian alternatives</b> Textured wheat protein and Quorn.
<b>Cheese and eggs</b> All plain cheeses and eggs	<b>Cheese and eggs</b> Ready grated cheese, cheese spread, flavoured cheese.	<b>Cheese and eggs</b> Scotch eggs Cheese sauce
<b>Milk and milk products</b> All cows milk (liquid and dried), all cream (single, double, whipping, clotted, soured and crème fraiche) buttermilk, plain fromage frais.	<b>Milk and milk products</b> Coffee and tea whiteners, oat milk, soya milk, rice milk, almond milk, fruit and flavoured yoghurt, fromage frais, soya desserts, custard and custard powder.	<b>Milk and milk products</b> Milk with added fibre, yoghurt and fromage frais containing muesli or cereals.
<b>Fats and oils</b> Butter, margarine, lard, cooking oils, ghee, reduced and low fat spreads.	<b>Fats and oils</b> Suet, very low fat spreads, garlic butter	<b>Fats and oils</b>

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<b>Gluten-free</b>	<b>Need to check</b>	<b>Not gluten-free</b>
<p><b>Fruit and vegetables</b> All fresh, frozen, canned and dried pure fruits and vegetables. Vegetables pickled in vinegar, all peas including mushy, processed and marrowfat.</p>	<p><b>Fruit and vegetables</b> Fruit pie fillings, potato products e.g. oven, microwave and frozen chips, frozen roast potatoes, instant mash, waffles, baked beans, vegetables in sauce, dried 'fruit mixes'.</p>	<p><b>Fruit and vegetables</b> Vegetables and potatoes in batter, breadcrumbs or dusted with flour, potato croquettes.</p>
<p><b>Nuts, seeds and pulses</b> All plain, dried, frozen and canned in water pulses (beans, peas and lentils), plain nuts and seeds.</p>	<p><b>Nuts, seeds and pulses</b> Dry roasted nuts, ready meals, and baked beans.</p>	<p><b>Nuts, seeds and pulses</b></p>
<p><b>Savoury snacks</b> Homemade popcorn, rice cakes, rice crackers</p>	<p><b>Savoury snacks</b> Plain potato or flavoured crisps, prawn crackers, corn crisps, tortilla crisps, shop bought popcorn.</p>	<p><b>Savoury snacks</b> Snacks made from wheat, rye and barley, pretzels.</p>
<p><b>Preserves and spreads</b> Sugar and glucose molasses, jam, conserves, honey, golden syrup, treacle, marmalade.</p>	<p><b>Preserves and spreads</b> Mincemeat, lemon curd, peanut and other nut butters, chocolate spreads. Beef, vegetable and yeast extracts</p>	<p><b>Preserves and spreads</b></p>

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<b>Gluten-free</b>	<b>Need to check</b>	<b>Not gluten-free</b>
<p><b>Soups, sauces, pickles and seasonings</b> Tomato puree, garlic puree, individual and mixed herbs and spices, all vinegars, ground pepper, mint sauce, Worcestershire sauce.</p>	<p><b>Soups, sauces, pickles and seasonings</b> Gravy granules, stock cubes, canned or packet soups, packet and jarred sauces and mixes, tamari, mustard products, mayonnaise, salad cream, dressings, pickles and chutney, blended seasoning, curry powder, tomato ketchup, brown sauce.</p>	<p><b>Soups, sauces, pickles and seasonings</b> Soy sauce, stuffing mix, Bovril</p>
<p><b>Confectionery and puddings</b> Jelly, liquorice root, homemade milk puddings made from gluten-free ingredients (rice pudding, tapioca).</p>	<p><b>Confectionery and puddings</b> Chocolates, ice cream, mousses, liquorice sweets, sweets, milk puddings, sorbets, seaside rock.</p>	<p><b>Confectionery and puddings</b> Puddings made with wheat flour and/or semolina, trifles.</p>
<p><b>Drinks</b> Tea, coffee, cocoa, fruit juice, squash, clear fizzy drinks, Complan, Meritene Energis.</p>	<p><b>Drinks</b> Drinking chocolate, cloudy fizzy drinks, vending machine hot chocolate, sports drinks.</p>	<p><b>Drinks</b> Malted milk drinks (i.e. Horlicks, Ovaltine), barley waters, cloudy fizzy drinks, Bovril</p>
<p><b>Alcoholic Drinks</b> Wine, spirits, cider, sherry, port, liqueurs, gluten-free beer.</p>	<p><b>Alcoholic Drinks</b></p>	<p><b>Alcoholic drinks</b> Beer, lager, ale, stout.</p>
<p><b>Miscellaneous</b> Gelatine, bicarbonate of soda, cream of tartar, fresh and dried yeast, artificial sweeteners.</p>	<p><b>Miscellaneous</b> Cake decorations, marzipan, baking powder, ready to use icings, meat, vegetable and yeast extracts, and baby foods.</p>	<p><b>Miscellaneous</b> Ice cream cones and wafers.</p>

### Contamination

Contamination of gluten-free foods with gluten-containing foods needs to be avoided, as even a tiny amount of gluten can cause gut (small intestine) damage.

To avoid contamination:

- Use a separate toaster, clean grill pan or toaster bags.
- Use separate or well-cleaned bread boards.
- Have separate spreads and jars or only use clean knives and spoons in shared ones.
- Make sure cooking oils in fryers have not had battered or bread crumb products in them.
- Cook gluten-free foods in separate dishes and use separate utensils to serve gluten-containing foods.

### What about eating out?

You can continue to enjoy eating out on a gluten free diet; however you may need to plan ahead. Try to speak to the restaurant or catering establishment in advance to explain your requirements and see if they offer gluten free options. It can be helpful to highlight foods that are naturally gluten free and therefore suitable to eat. You may also wish to give advice on examples that are not safe that they may not have considered for example stock cubes and emphasise the importance of avoiding cross contamination.

Current law means that all food service organizations including restaurants, pubs, cafes, fast food stands and catering departments serving food to the public have to supply details of the menu items that contain the 14 allergens within the dishes they serve. These allergens include those containing gluten. Remember they won't be labelled as gluten but as the grains that contain gluten: **wheat, rye and barley**.

Some restaurants have been accredited by coeliac UK and will use the symbol below on menus and in windows. Catering establishments that use this symbol may use it in the window or on their menus. It means that the gluten free menu choices available meet all requirements of the gluten free



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standard. For further information on this scheme and accredited restaurants in your area visit the Coeliac UK website.



Some restaurants use other codes on their menus to show which meals are gluten-free. Particularly check soups, sauces, gravy, sausages and dishes that may contain flour. If in doubt, don't eat it.

You can find listings of restaurants which provide gluten-free meals on the Coeliac UK website. Once you have joined Coeliac UK you will have access to this section.

When **eating with friends**, explain about your diet when accepting the invitation rather than when arriving on the doorstep!

When attending **weddings, parties and other celebrations**, where possible contact the people who invited you or the party venue to explain the situation. If you are not comfortable doing this you may need to have a snack before leaving home or take emergency rations with you. Gluten-free food may not always be available and alcohol can have a disastrous effect on a person with an empty stomach!

### **Can I have takeaways?**

You need to be careful, and speak to the staff to clearly explain your needs. All takeaway venues now need to be able to state if their food contains wheat, rye or barley.

#### **Fish and chips:**

- Avoid chips if they are cooked in the same oil as battered fish.
- It is not safe to eat the fish after removing the batter as it will already have been contaminated with gluten.
- Some fish and chip shops produce gluten free fish and chips on designated gluten free nights, or have a separate fryer that is only used for gluten free products.

#### **Chinese:**

- Avoid wheat noodles.
- Plain boiled rice is likely to be safe.
- Avoid dishes containing soy sauce.
- Ask for the wok to be cleaned before your meal is cooked and emphasise the importance of avoiding cross contamination to the proprietor.

#### **Indian:**

- Avoid breads e.g. naan, chapattis that are made with wheat flour.
- Many dishes use chickpea flours or yoghurt as thickeners, so may be gluten-free but check with the individual takeaway.
- Ensure dishes or extras are not fried in contaminated oil.

#### **Pizza:**

- Conventional pizza and pasta dishes should be avoided.
- Some pizza chains now produce gluten-free pizzas that have to adhere to strict regulations for production and cooking. This will be stated on their menus.
- If you are in an Italian restaurant that does not have a gluten free menu but have gluten free pizza bases available be aware of the

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possibility of contamination from flour on surfaces which the gluten-free bases may touch. Make sure the restaurant or takeaway uses a clean surface for the preparation of your food.

### **Mexican:**

- Pulse vegetables (Kidney beans, black eye beans) are used frequently in Mexican cuisines and are naturally gluten free.
- Soft tortillas and tortilla chips are corn based and often form the base of the meal alongside rice.

Further information on restaurants and takeaways is available to members of Coeliac UK on their website.

### **Possible complications of Coeliac Disease:**

**It is important to remember that good control of your coeliac disease with a gluten free diet will help to reduce the risk of complications.**

- **Osteoporosis**

People with Coeliac Disease are at increased risk of developing osteoporosis due to reduced calcium and vitamin D absorption which may have been occurring for some time. Your calcium requirements are higher than normal and your Dietitian will discuss ways to increase your calcium intake if required.

People with coeliac disease who are at high risk of osteoporosis will be offered a bone scan (DEXA scan) your Gastroenterologist or Dietitian will advise you if this is required.

You can reduce your risk of osteoporosis by following a strict gluten-free diet, ensuring your diet contains adequate calcium and vitamin D, (the main source of vitamin D is from sunlight however in the UK between October and March there is insufficient sunlight so you may benefit from taking a vitamin D supplement your dietitian can advise you on this).

Other factors that reduce your risk of osteoporosis include: following a healthy balanced diet, stopping smoking and taking regular weight bearing exercise (e.g. walking).

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- **Vitamin and mineral deficiencies**

Untreated Coeliac Disease can cause lower absorption of all vitamins and minerals. Following a strict gluten-free diet should enable you to absorb all the nutrients from your food once your gut has recovered.

- **Malignancy**

Untreated Coeliac Disease is associated with an increased risk of Non-Hodgkin's and Hodgkin's lymphoma and small bowel cancer, but overall rates are low. There is evidence that adherence to a gluten-free diet reduces this risk within five years to that of the general population.

- **Complications in pregnancy**

Untreated Coeliac Disease has been associated with increased risk of miscarriage, reduced foetal growth rates, low birth rates and increased risk of pre-term birth and caesarean sections. Following a strict gluten-free diet is associated with a return to normal outcomes. It is important to follow general dietary guidelines for pregnancy.

**Please speak to your Dietitian if you are planning on becoming pregnant or are pregnant.**

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## Healthy eating

People with Coeliac Disease following a strict gluten-free diet should also try to follow healthy eating guidelines.

**Try to eat a variety of foods as recommended in the Eat Well plate food groups.**



### Bread, Rice, Pasta, Potatoes and other starchy foods:

Gluten free bread, gluten-free cereals, gluten-free pasta, potatoes and rice should be eaten as these provide starchy carbohydrates as well as other nutrients. Higher fibre varieties are particularly beneficial to help bowel health. These starchy foods should form the basis of each meal.

### Fruit and Vegetables

Choose plenty of different fruit and vegetables as these are an important source of fibre, vitamins and minerals. Aim to have 5 portions per day.

### Milk and Dairy

Milk and dairy foods are a good source of calcium; try to choose healthier low fat versions e.g. skimmed or semi skimmed milk when possible. A good calcium intake is vital for people with coeliac disease who are at

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increased risk of developing osteoporosis (thinning of the bones). If you do not eat dairy foods or drink cow's milk, ask your dietitian for advice.

### Meat, Fish, Eggs, and Beans

Meat, fish and eggs should be taken in moderate amounts selecting lower fat versions and using low fat cooking methods when possible. These foods provide essential nutrients such as proteins, iron and other minerals. If you follow a vegan or vegetarian diet, pulse vegetables, nuts, soya mince, TVP and Quorn provide a good source of protein.

### Foods high in fat and sugar

Foods containing high proportions of fat and sugar are not essential and should be eaten sparingly if you are trying to lose weight or maintain a healthy weight. Choose fats that are unsaturated.

Eat the right amount to be a healthy weight. If you need help either losing or gaining weight ask your dietitian for further advice.

### Further Information

Your Dietitian is \_\_\_\_\_

If you have any questions or would like further information then please contact the Nutrition and Dietetics Teams at either the Hospital of St Cross, or University Hospitals Coventry and Warwickshire.

<b>Hospital of St Cross, Rugby</b>	<b>University Hospitals Coventry and Warwickshire, Coventry</b>
Department of Nutrition and Dietetics Brookfield House Hospital of St Cross Barby Road Rugby CV22 5PX Tel: 01788 663473	Department of Nutrition and Dietetics 2 <sup>nd</sup> Floor Rotunda Clifford Bridge road Coventry CV2 2DX Tel: 02476 966161

## Patient Information

The Trust has access to interpreting and translation services. If you need this information in another language or formats please contact 024 7696 6161 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

To give feedback on this leaflet please email: [feedback@uhcw.nhs.uk](mailto:feedback@uhcw.nhs.uk)

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