

Coeliac Disease

How to follow a gluten free diet



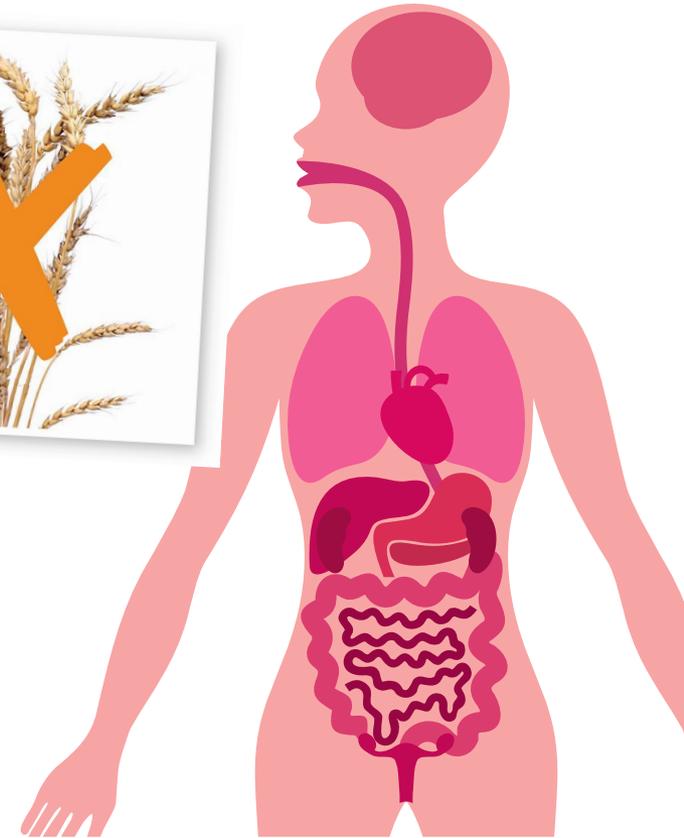
**Paediatric Dietitians
Gloucester Royal Hospital
0300 422 5506**

What will be covered?

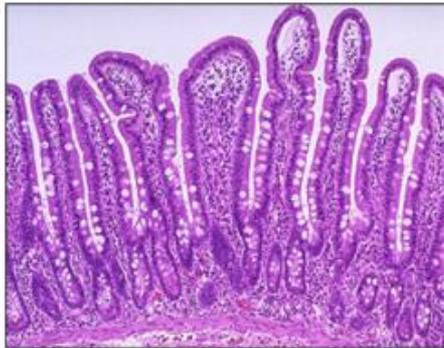
- What is Coeliac Disease?
- What are the symptoms?
- What causes Coeliac Disease?
- The gluten free diet
- Help with reading food labels
- Important nutrients
- Top tips – cross-contamination, how to manage social situations, eating out

What is Coeliac Disease?

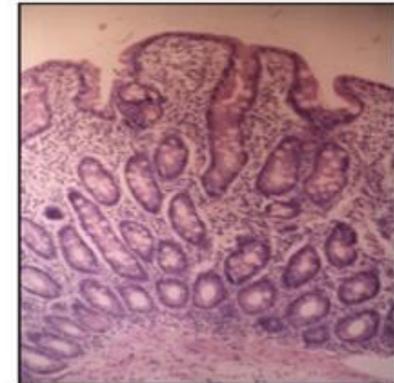
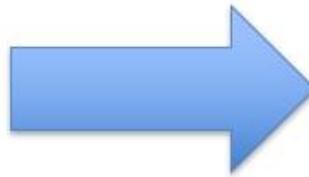
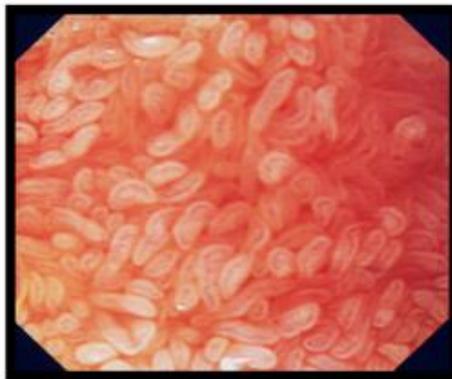
- Life long 'auto-immune' condition involving gluten – a protein found in wheat, rye and barley
- When gluten is eaten an immune response is triggered, resulting in damage to the delicate lining of small intestine – the 'villi'



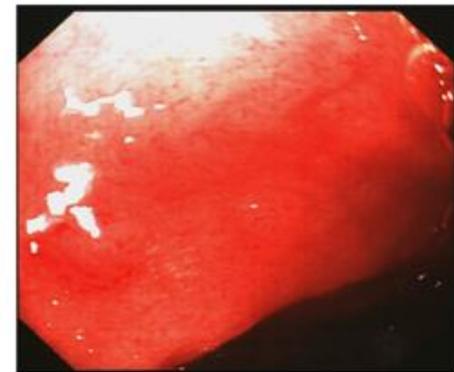
What is Coeliac Disease?



Healthy Villi

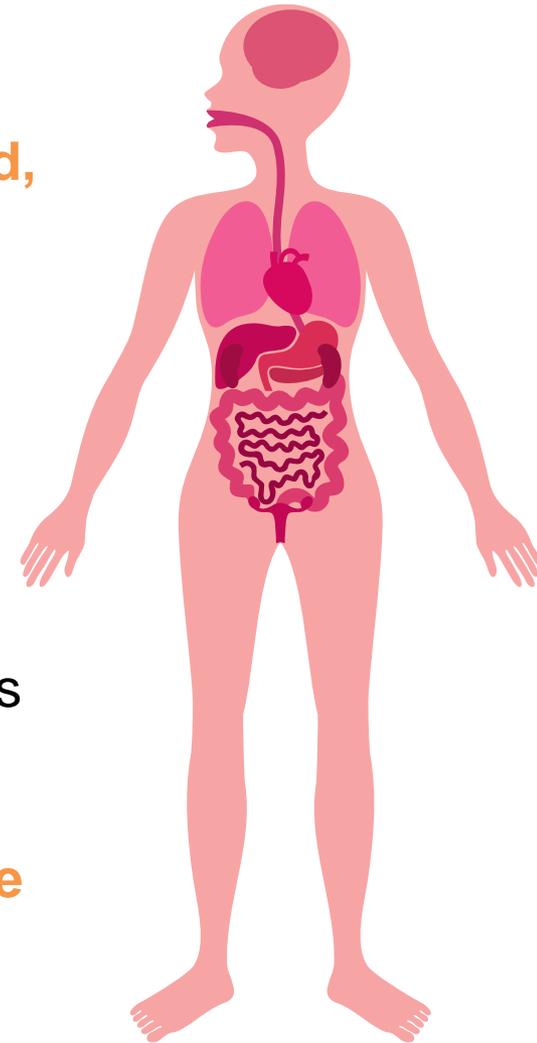


Damage to Villi



What are the symptoms?

- Symptoms include: **Diarrhoea, nausea & vomiting, bloating, constipation, pain and wind, skin rashes...**
- Damage to the gut reduces your absorption of important nutrients and may result in:
Low vitamin B12, Folate and/or Iron (Ferritin)
- This immune response may also trigger symptoms outside of the gut:
 - **Tiredness, headache/ migraine, joint/ muscle pain**



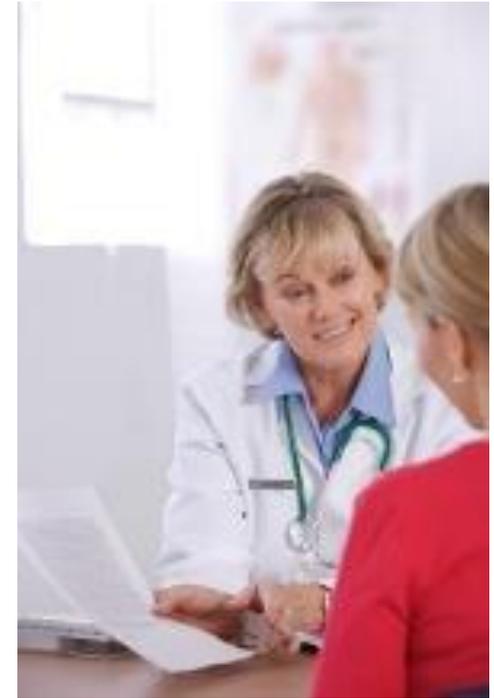
What causes Coeliac Disease?

- Occurs in people with the right genetic profile for the disease
- Affects 1 in 100 people
- Your risk increases to 1 in 10 if you have a close relative with the condition
- Can occur at any stage of life
- Many people with the condition are still not diagnosed (~24% only have diagnosis)
- Closely linked with other autoimmune conditions – e.g Type 1 diabetes, autoimmune thyroid disease



How is it diagnosed?

- **Blood test**
 - Measures levels of coeliac-specific antibodies (commonly known as TTG)
- Endoscopy and biopsy (camera investigation)
- Gluten-containing diet is essential before and during these tests (At least 6 weeks eating gluten in more than 1 meal a day)



Why do I need a gluten free (GF) diet?

- To allow your gut to heal and repair
- To manage symptoms
- To increase your general feeling of well-being
- To encourage normal growth & development
- To reduce the risk of complications, including anaemia, osteoporosis (thinning of the bones) & small bowel cancer
- This is currently the **ONLY** treatment for Coeliac Disease

Where is gluten found?

- **Wheat, rye, barley & standard oats** and products that contain these, including:
 - Wheat/ rye flours
 - Breads, pasta & breakfast cereals
 - Cakes & pastries
 - Biscuits & crackers
 - Batters & thickened sauces
 - Beers/lagers and barley water



Oats

- Oats offer many nutritional and health benefits
- Many standard oats & oat products are produced in the same place as wheat, barley and rye
- Therefore only consume oats that are labelled as **'gluten free'**
- Gluten Free oats are tolerated by the majority of people with coeliac disease
- Oats (including Gluten Free oats) contain a protein called Avenin (similar to gluten) which some people with coeliac disease need to avoid



... so what can I eat?

Many foods are naturally gluten free

- Rice & potatoes
- Fruit & vegetables
- Other cereal grains including corn (maize), millet and polenta
- Dairy foods & eggs
- Meat, fish and poultry where gluten has not been added during processing



Foods to check

- Processed/ ready made foods and dishes may contain unexpected gluten added as a stabiliser or binder – **always check the label**

Useful help:

- Coeliac UK **Food and Drink Guide**
- Coeliac UK **mobile phone app** includes a barcode scanning tool and lists of ingredients and nutritional information for products



Specialist gluten free foods

- A range of specialist gluten free foods are available in supermarkets, health food shops and online.
- Try a variety of brands to see which one you prefer.
- Some companies may provide a free sample – please check their websites



Help with reading food labels

- **‘Gluten Free’**: foods that contain less than 20 ppm of gluten – enforced by law & safe to eat



**The
Crossed
Grain
Trademark**

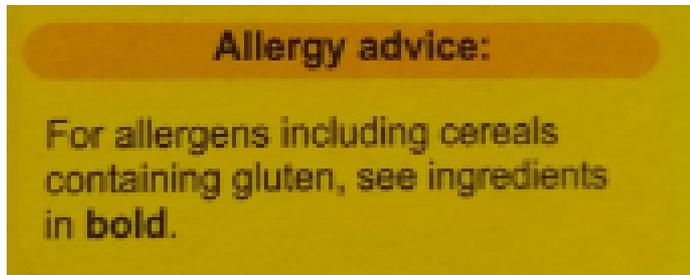


- Don't forget to check drinks!

Allergen labelling law

- Gluten containing cereals (however small the amount) must be emphasised in **bold, italics, or highlighted** text within the ingredients list
- Look for: **Wheat, Rye, Barley, Oats** – these need to be avoided

You might also see 'Allergy Advice' Panel, that directs you to the ingredients list for more information, e.g:



- If you are shopping online you can often use filters 'gluten free' to help you find products

May contain/ made in a factory handling

- This means there is a risk of cross contamination
- Generally these foods need to be avoided
- The manufacturer may be able to provide further information
- Coeliac UK may have more info on these products

When there is no food packaging:

- Ask for allergen information
- Ask if any risk of cross contamination – i.e. gluten free foods close to gluten containing food / using separate utensils

Confusing ingredients

- **Codex Wheat Starch** (gluten free wheat starch) – safe to consume. Wheat starch needs to be avoided.
- **Barley Malt Extract**- some products are labelled gluten free and also contain barley malt extract, these **are safe** to include as part of your gluten free diet. If not labelled GF avoid.
- **Barley Malt Vinegar**- Foods that contain small amounts of barley malt vinegar can be eaten by people with coeliac disease if they contain 20 parts per million of gluten or less. If not labelled GF avoid.
- **Glucose Syrups/Dextrose, Maltodextrins** – all safe to consume

Cross contamination

- Cross contamination is when gluten free food comes into contact with gluten containing food.
- **Invest in extra equipment** – use a separate chopping board and toaster (or toaster bags) for gluten free food
- **Clean-up well** – wipe surfaces, wash hands and utensils thoroughly before handling gluten free food
- **Keep gluten free food separate** – store gluten free food at the top of the fridge to prevent contamination, store unpacked/ open gluten free food in sealed bags/ Tupperware
- **Use different butter/ margarine & preserves** – butter knives can easily transfer crumbs, use coloured stickers to highlight what is to be kept gluten free
- **NEVER remove ordinary coatings** (breaded or battered) from made up products e.g. croquettes or fish from a fish shop. The food will always be contaminated with gluten

Top tips: Eating away from home

- **Be prepared** – keep a selection of gluten free snacks to hand; in the car, rucksack
- **Make extra** – cook additional portions of your evening meal to take to school or eat the following day, e.g gluten free pasta/ cooked meat for jacket potatoes or salads
- **Do your homework**- take time to check restaurant websites for their gluten free offerings, ring ahead to check what might be suitable... caterers must be able to provide this information by law!
- **Don't be afraid to ask** – if you're not confident that your meal or where it was prepared is gluten free, ask for more information



Important nutrients:

Calcium

- People with coeliac disease have higher requirements for calcium.
- Children's requirements change with age. Adults should aim to eat **1000-1500mg/day**; 300-800mg more than people without coeliac disease!
- Vitamin D is important for calcium absorption:
 - obtained from sunlight
 - oily fish, eggs and fortified margarine/ dairy products are dietary sources – but it's difficult to get enough from diet alone – supplements are often recommended:



Population Group:	Vitamin D requirement (µg) day
Children aged 0-1 years (unless they are taking more than 500ml of fortified formula/day)	8.5- 10 µg
Children over 1 year + adults	Consider 10µg, especially during winter months
High risk groups (people with limited sun exposure)	Consider 10µg, all year round

Age	Calcium requirement (mg) day
Children 1-3	350mg
4-6	450mg
7-10	550mg
Adolescents	800 (girls) 1000 (boys)
Adults	1000-1500mg/d

Good sources of calcium

Food	Approx Calcium Content
1/3 pint of milk (200ml)	240mg
1/3 pint Calcium-enriched soya/ rice milk (200ml)	240mg
Matchbox-sized piece of hard cheese (30g)	220mg
½ tin of sardines with bones (60g)	250mg
Pot of low fat plain yogurt (150g)	240mg
Milk pudding (200g)	260mg
4 Dried figs	200mg
Tofu (60g)	300mg
2 slices of calcium-fortified gluten free bread	85mg
Handful of almonds (30g)	70mg
Orange (medium size, 160g)	75mg
8 dried apricots	50mg

Important nutrients: Iron

- Approx 25% of people newly diagnosed with Coeliac Disease have iron deficiency anaemia at diagnosis
- Iron is essential to form healthy red blood cells – transporting oxygen around the body
- Haem iron (more readily absorbed) – red meat, egg yolk, liver
- Non-haem iron (less well absorbed) – leafy green veg, beans, pulses, dried fruit



Important nutrients: Fibre

- Fibre intakes in the UK are less than recommended levels
- People on a gluten free diet may consume even less fibre
- Fibre helps to maintain a healthy gut, cholesterol and blood sugar levels
- Good, gluten free sources of fibre include:
 - Fresh fruit and vegetables
 - Dried fruit
 - High fibre gluten free breads, crackers and pasta
 - Brown rice
 - Nuts
 - Beans and pulses

Coeliac UK



- Yearly book – food and drink directory. Ensure updated monthly
- Help line – call if any specific questions about foods
- Complete membership - £27 a year
- Digital membership – £15 a year
- Use of APPS - Gluten free on the move and Gluten free food checker
- <https://www.coeliac.org.uk/home/>



Take home messages

- The only treatment for coeliac disease is a **life-long gluten free diet**
- Naturally gluten free foods include: fresh meat, poultry, fish, eggs, dairy foods, fruit, vegetables, nuts, rice and potatoes
- Join Coeliac UK for additional information and support & to obtain a **Food and Drink Guide**
- Check food labels for gluten containing ingredients – **Wheat, Rye, Barley & Oats**
- Be careful about cross contamination and ensure that **gluten free food is prepared in a gluten free environment**