



# Insulin Dependent Diabetes Trust

## Coeliac Disease and Diabetes

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Both diabetes and coeliac disease are autoimmune diseases and there are increasing amounts of research to show that there is a link between the two in adults, children and adolescents. Increasingly there are views that more attention should be given to this link and that tests for coeliac disease should be routinely carried out in both

adults and children with Type 1 diabetes.

Coeliac disease maybe the cause of vague abdominal symptoms and may cause hypoglycaemia due to impaired carbohydrate absorption in the gut.

### What is coeliac disease?

- It is a condition in which the lining of the small intestine is damaged by gluten. Gluten is a protein found in rye, wheat, barley and possibly oats.
- This damage causes foods to not be absorbed properly by the small intestine and so before diagnosis there is weight loss and

possibly malnutrition.

- Treatment is a gluten free diet.
- It is prevalent in the UK although estimates of incidence vary from 1 in 1000 to 1 in 300 people.
- It can be diagnosed at any age but mostly it is finally diagnosed in adulthood between the ages of 30-45.
- Many other cases may remain undiagnosed or may be falsely diagnosed as irritable bowel syndrome and only a third of cases are ever diagnosed as coeliac disease and treated with a gluten free diet.
- Certain groups are at greater risk of developing coeliac disease – people with Type 1 diabetes, Downs syndrome, thyroid disease and osteoporosis.

seem unimportant, such as tiredness, lethargy and breathlessness. Usually the symptoms are somewhere between the two but some people are diagnosed without having any symptoms.

Adults may have a history of abdominal discomfort or they may develop coeliac disease at any time. Anaemia, mouth ulcers and weight loss are common signs.

Babies are fit and well until the introduction solid foods that contain gluten when the baby becomes pale, bulky, have offensive-smelling stools and be lethargic and miserable.

All these symptoms could apply to other conditions so it is important that you do not assume that you have coeliac disease but seek medical help.

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## Diabetes and coeliac disease

Both diabetes and coeliac disease are autoimmune diseases and there are increasing amounts of research to show that there is a link between the two both in adults, children and adolescents. Increasingly there are views that more attention should be given to this link and that tests for coeliac disease should be routinely carried out in both adults and children with diabetes [ref 1].

Coeliac disease maybe the cause of vague abdominal symptoms and may cause hypoglycaemia due to impaired carbohydrate absorption in the gut.

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## Diagnosis

Coeliac disease is nearly always diagnosed by a gastroenterologist. Until recently coeliac disease could only be detected after years of symptoms and an intestinal biopsy. The new test measures antibodies in the blood to gluten and gliadin in the diet and damaged endomysial muscle in the bowel. The anti-gliadin antibodies disappear with a gluten free diet but the endomysial antibodies persist in all people with untreated and treated coeliac disease and so it is an excellent screening test although not 100% accurate.

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## What are the symptoms of coeliac disease?

Coeliac disease can cause people to be acutely and severely ill with weight loss, vomiting and diarrhoea or symptoms may be chronic and

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## Treatment

A strict gluten free diet is the only treatment that puts the intestine

back to normal.

Diabetes requires a well balanced diet with plenty of carbohydrate but once coeliac disease has been diagnosed, providing carbohydrate becomes more difficult as many of the carbohydrates we eat and enjoy, such as bread, pasta, cereal, pastry, crackers, biscuits and cakes, contain gluten which has to be avoided. This is particularly difficult for children. These foods can be replaced with gluten-free products, some of which are available on the NHS in the UK. But as there is no gluten in the flour, the products do not have the same consistency and taste and are often not so delicious.

Here are just some of the difficulties:

- There is a lack of choice.
- Pre-prepared foods are much more difficult to obtain because many of them contain gluten eg the flour used to thicken soups contains gluten.
- It takes time to become familiar with the 'hidden' gluten eg wheat flour is often used as a carrier for flavouring in such things as crisps.
- Buying gluten-free products is very expensive.
- Note – some products are available with a gluten-free symbol.

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## Information sources

Coeliac UK  
PO Box 220  
High Wycombe  
Bucks  
HP11 2HY

tel: 01494 437278  
helpline: 0870 4448804

website: [www.coeliac.co.uk](http://www.coeliac.co.uk)

Another useful website is [www.allergy.co.uk/coeliac\\_disease.htm](http://www.allergy.co.uk/coeliac_disease.htm)

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## Personal experiences

The experiences of a family living with diabetes and coeliac disease  
As a family we have learnt to cope with coeliac disease and diabetes, but it is not easy. As we know, children hate being different and some find living with coeliac disease more difficult than living with diabetes. Coeliac disease makes a child more obviously different from their friends and family and it can bring emotional and behavioural problems that can be difficult to deal with.

There can be arguments about which foods can and cannot be eaten. Always being different from their brothers, sisters and friends and going out for a MacDonalds or a pizza can turn into a nightmare when your child, yet again, cannot eat all the yummy things available.

This can result in bad behaviour, temper tantrums and refusal to eat at all which in turn, affects diabetic control. Yes, living with diabetes and coeliac disease does bring its stresses and strains to family life and these should not be underestimated.

All this sounds pretty horrendous and it can be overwhelming at the beginning but I know from experience, that once you have got used to the idea of your child having coeliac disease and diabetes, it is possible to survive!

**Here are just a few tips we have learnt along the way:**

### Eating Out

This can seem like just another obstacle to overcome, but it can be so don't give up. Fast foods are enjoyed by children and we discovered

that with a bit of forward planning they can still be part of our life.

- Pizzas – we've discovered that most pizza bars are happy to put a topping on a gluten-free pizza base so you can always make your own base and take it with you.
- Pasta – you can take your own gluten-free pasta with you and ask to have it cooked.
- Burgers – MacDonalds etc are always keen to oblige and will put a burger inside a gluten-free roll.
- Fish - can be fried without batter.

We always go armed with gluten-free bread and insulin wherever we go!

### **Holidays**

Again it is a matter of 'be prepared' and we've discovered that time spent on forward planning is well worth it, whether holidaying in this country or abroad. If you are going abroad it is worth taking all your gluten-free products with you. If flying we have found that airlines will provide a gluten-free diet if ordered 3-4 weeks in advance but, of course, there is never enough carbohydrate so we have to take extra.

### **School**

School kitchens are usually very accommodating and are happy to provide a gluten-free diet but there may not be enough carbohydrate. I've found that catering staff are very willing to help once I have spent time with them explaining my son's needs, although it is often easier and a safer bet for younger children and the newly diagnosed to have packed lunches.

### **An expensive tip!**

We've invested in an automatic bread maker and it makes delicious home made bread and prepares dough for pizzas, doughnuts, buns and pastry etc. It has brought a greater variety and freshness to the gluten-free diet and, even better, it has given my son a real interest in making his own recipes.

## **Research**

Research in Finland has shown that:

- only 24% of 300 people with coeliac disease had classic symptoms,
- 36% had minor symptoms,
- 27% were diagnosed with associated diseases and 13% by chance.
- 51% had another autoimmune disease with 16% of this group having diabetes.

Research in Oxford [ref 2] looked at 167 children and young people with diabetes. Antibody tests for coeliac disease were carried out and 11 [6.6%] were antibody positive. Of this 11 only 1 had coeliac disease symptoms, 4 had a history of gastro-intestinal problems but not severe enough to seek medical advice and 6 showed no symptoms at all.

Nine of this group of eleven agreed to a biopsy and 8 of them had typical coeliac features of the small bowel. All were treated with a gluten-free diet and monitored for up to 2 years. They were symptom free. Those showing no symptoms at all before the study reported no change in their well-being and follow up biopsies showed normal appearances of the small bowel suggesting that treatment had been effective.

The authors point out that screening for coeliac disease in these youngsters with diabetes showed a high percentage had coeliac disease but the majority of them did not show the classic symptoms. At present it is not known whether treating symptomless people will be of benefit considering the rigors of the coeliac diet and whether or not they are at greater or lesser risk of the long-term complications of coeliac disease.

Research published in Diabetologia [ref 3] has shown that in 491 people with Type 1 diabetes there was a high presence of undiagnosed coeliac disease [5.9%] and it was also higher than normal in their first degree relatives [1.9%]. The study also looked at 4000 healthy people and their rate of undiagnosed coeliac disease was only

0.25%. This confirms the findings of other studies that have shown similar findings and adds weight to the suggestions that there should be routine screening for coeliac disease in children and adults with Type 1 diabetes. There was also a higher rate of other autoimmune disorders in people with Type 1 diabetes and coeliac disease.

Ref 1 Coeliac Disease and Type 1 diabetes – the case for screening.  
Diab Med 2001;19

Ref 2 Coeliac Disease in Children and Adolescents with IDDM.  
D.B.Dunger et al. Diab Med, Vol 15: 38-44

Ref 3 Diabetologia 2001;44:151-155

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