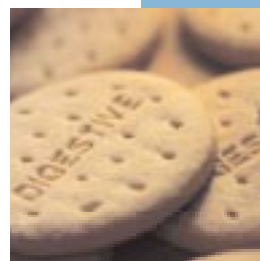
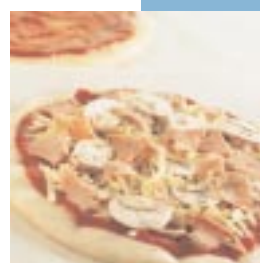
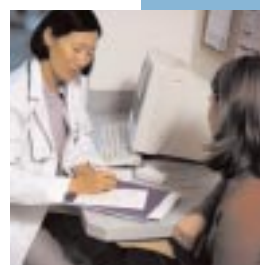


# Gluten-free foods: a prescribing guide



## Discussion panel

This document is based on input from the assembled panel of experts listed below, and wider consultation involving professional organisations and patients.

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## Acknowledgements

The coeliac disease working group of the British Society of Paediatric Gastroenterology Hepatology and Nutrition (BSPGHAN) has been involved in the development of these guidelines.

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## Introduction

Coeliac disease is one of the most common lifelong disorders in western countries, with a prevalence of about 1% in Europe as revealed by screening studies.

It was once considered a disease of childhood, but in 2001 Coeliac UK reported that more than 89% of newly-diagnosed members were adults. The average age at diagnosis is about 45 years and while the condition is often confirmed between the ages of 30 and 45 years, about 25% of people with coeliac disease are now diagnosed over the age of 60 years.

In untreated coeliac disease, damage to the surface of the small intestine results in the reduced ability to digest and absorb food and causes malabsorption of essential nutrients such as iron, folic acid and calcium. In infants and children this can result in health problems such as faltering growth, unexplained anaemia, chronic diarrhoea and abdominal distension. In childhood, the presenting features are often relatively subtle and the diagnosis must be thought of at an early stage. In adult life, ill-health with symptoms of tiredness, reduced appetite, weight loss, mouth ulcers, abdominal bloating, diarrhoea and anaemia may occur.

Many people with coeliac disease now present with apparently mild or non-specific complaints but from their perspective these can be far from trivial.

Health risks linked to gluten ingestion include poor growth in childhood, osteopenia, osteoporosis, infertility, the development of other autoimmune disorders, and malignancy, particularly lymphoma. Coeliac disease is unique in that a specific, effective treatment is available in the form of lifelong exclusion of gluten from the diet. Those who adhere strictly to a gluten-free diet can lead full, healthy lives and are protected from the development of the health risks associated with the untreated condition. It is crucial therefore, that people with coeliac disease can obtain gluten-free foods to satisfy their needs.

People with coeliac disease have varying requirements for gluten-free foods depending on their age, gender, occupation and lifestyle. A wide range of specially formulated gluten-free products is available on prescription and easy access to these is vital to promote strict dietary compliance.

A recent survey of 1,000 adults with coeliac disease undertaken by Nutricia Dietary Care and SHS International found that the availability of gluten-free foods on prescription aids dietary compliance. Of those respondents who received gluten-free foods on prescription, 37% reported that they adhered strictly to the diet, 33% rarely lapsed and 19% lapsed only occasionally. Importantly, 37% said that the availability of foods on prescription would aid compliance. Clearly, a variety and easy access to a range of gluten-free foods on prescription are important aids to compliance.

Further reading and appropriate websites can be found on page 14.

*'Health risks linked to gluten ingestion include poor growth in childhood, osteopenia, osteoporosis, infertility, the development of other autoimmune disorders, and malignancy, particularly lymphoma'*



# Prescribing guide

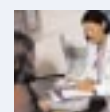
**The aim of this document is to assist general practitioners (GPs), dietitians, practice nurses and pharmacists in the decision-making process when recommending or prescribing the quantities and range of gluten-free foods available on prescription.**

**This guide provides minimum recommendations for a well-balanced and varied gluten-free diet and should be used together with a full dietary assessment and advice from a state-registered dietitian (see Table 7, page 12). The recommendations can also be used as part of local protocols addressing the overall management of people with coeliac disease.**

## Presentation to prescription: the patient process

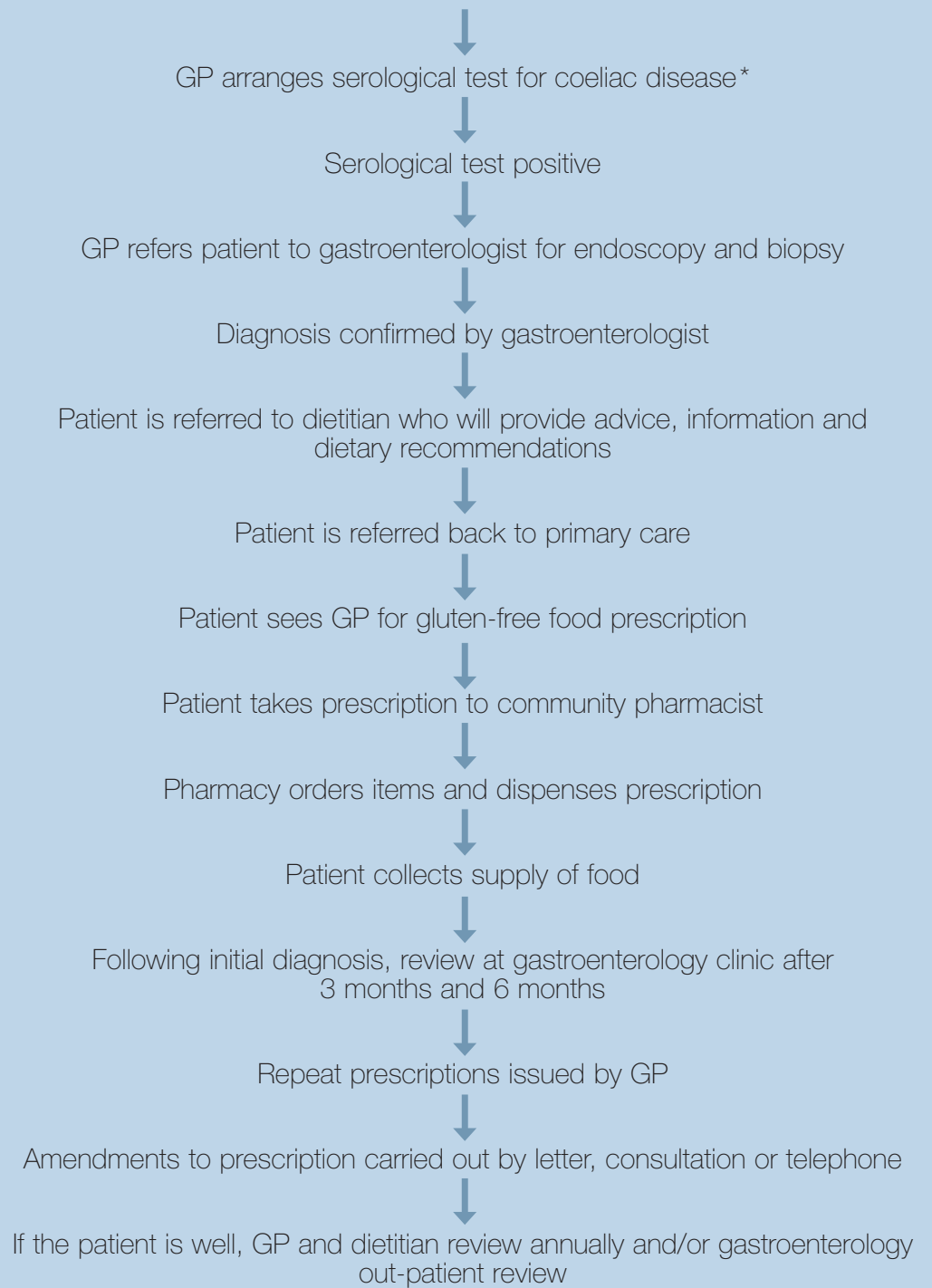
People with coeliac disease will be managed by a healthcare team that includes the GP, practice nurse, gastroenterologist, dietitian and pharmacist (see Figure 1). In the case of a child or adolescent under the age of 16 years, a paediatric gastroenterologist and paediatric dietitian must be involved (see Figure 2).

*‘Recommendations for a well-balanced and varied gluten-free diet should be used together with advice from a dietitian’*



**Figure 1: Adults with coeliac disease: the process**

*'Patients should be reviewed initially at 3 and 6 months and then annually'*

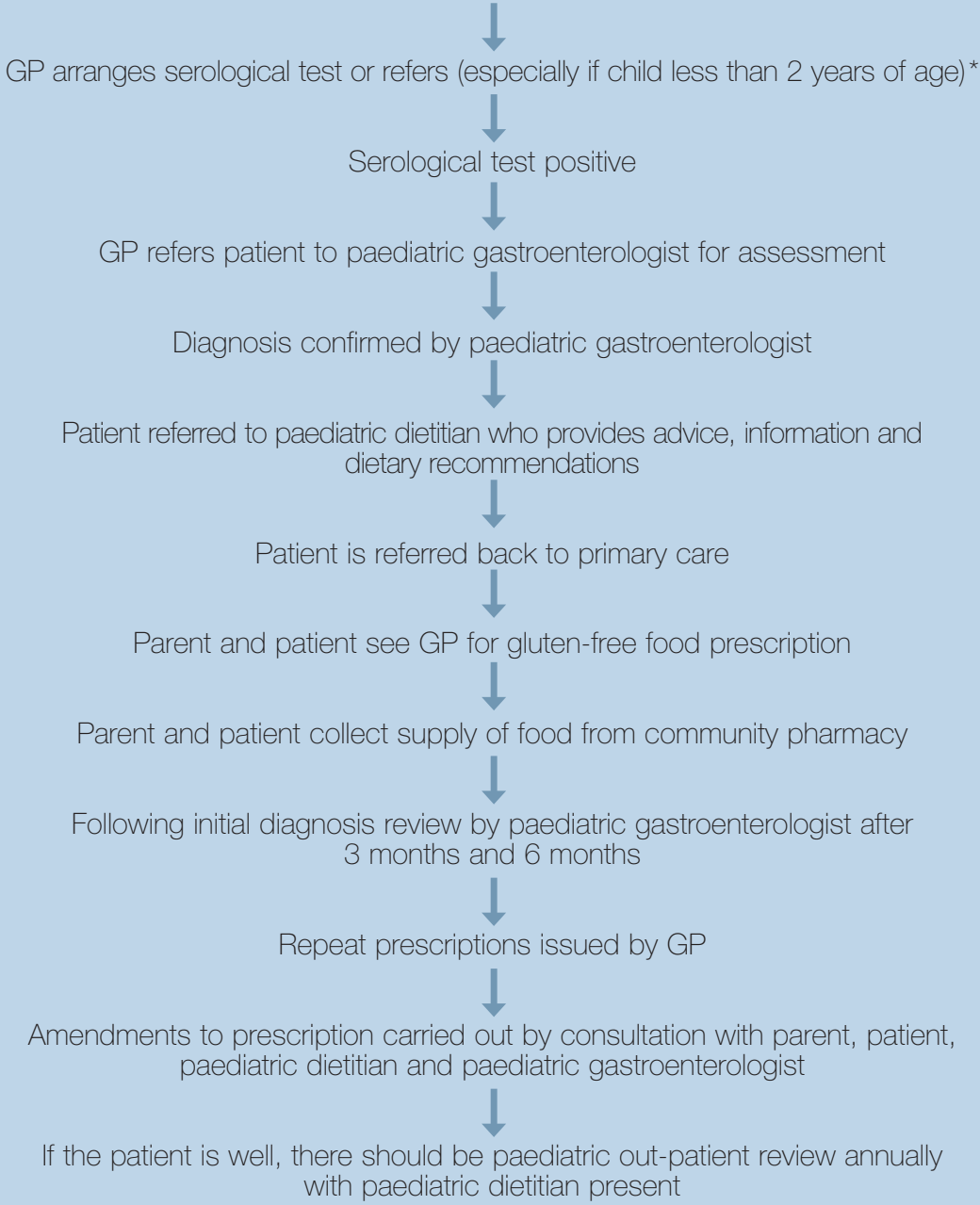


\* currently the best tests are the detection of endomysial and human tissue transglutaminase antibodies

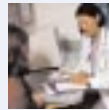
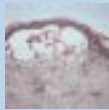




## Figure 2: Children and adolescents (<16 years of age) with coeliac disease: the process



\* currently the best tests are the detection of endomysial and human tissue transglutaminase antibodies



## Excluding gluten from the diet

People with coeliac disease must avoid all foods which contain gluten, a protein found in wheat, rye and barley. Recent evidence indicates that oats are not damaging in adults and can be included in the diet, however the sensitivity of an individual varies, and oats should be introduced under the supervision of an informed healthcare professional.

People with coeliac disease must therefore not eat any foods that are made from ingredients containing gluten such as bread, flour, pasta, cakes, pastries and biscuits. Many other foods including sausages and packet meals often contain gluten in the form of cereals used as fillers or binding agents. This limits the diet even further.

Because of these limitations, people with coeliac disease may have a restricted and potentially unbalanced diet, particularly as many foods which have to be avoided are staple foods.

People with coeliac disease obtain gluten-free foods from a variety of sources (see Table 1). Many of the gluten-free food brands that are available on prescription cannot be purchased in shops. The provision of gluten-free foods on prescription does aid patient compliance.

*'The provision of gluten-free foods on prescription does aid patient compliance'*

**Table 1: Sources of gluten-free food<sup>1</sup>**

Source	Per cent
GP (FP10 prescription)	92
Supermarket	68
Health food shop	56
Mail order, telephone, internet	32
Purchase from pharmacy	14

It is extremely important that advice, support and information is provided by healthcare professionals in order to ensure that people with coeliac disease have a balanced and varied gluten-free diet.

## Gluten-free foods on prescription

There is a variety of gluten-free foods currently available on prescription to help replace staple foods. These should be included in the diet to enable people with coeliac disease to achieve a healthy balanced diet (see Table 2).

**Table 2: Gluten-free foods available on prescription**

Bread/rolls
Plain biscuits
Crackers and crispbreads
Flour/flour-type mixes
Pasta
Pizza bases

According to the Department of Health the most commonly prescribed foods are bread, plain biscuits and flour mixes.

<sup>1</sup>Coeliac UK and Nutricia Healthcare survey, 2001



# General considerations when prescribing gluten-free food

## People with coeliac disease: their requirements

- Coeliac disease is a medical condition, it requires life-long exclusion of gluten from the diet and dietary compliance is the key to successful management
- A balanced, varied gluten-free diet is required
- A gluten-free diet may be low in fibre and may cause or worsen constipation. Appropriate dietetic advice should be given
- Not all people with coeliac disease have just a gluten-free diet, i.e. the prescription may also need to be for wheat-free or lactose-free products. It is important to check with the patient
- Other medical conditions need to be taken into account e.g. diabetes and osteoporosis
- The prescription will vary as each patient will have different needs as a result of their lifestyle, taste, seasonal changes and new products becoming available and to avoid taste fatigue or boredom
- Regular review is important as dietary needs vary throughout life. As the patient improves so too will their appetite and quantities of gluten-free foods may need to be adjusted accordingly

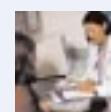
## Gluten-free foods

- Gluten-free foods vary from brand to brand. What may be suitable for and taste good to one patient will not necessarily suit another
- People with coeliac disease may be able to obtain samples from the manufacturers or their dietitian to 'try' the foods prior to obtaining a prescription
- A range of gluten-free bread is available to suit different uses, e.g. for toasting, part-baked, fresh for sandwiches. Bread is a good source of energy, fibre and calcium
- Gluten-free loaves are approximately 1/3 the physical size of a standard ordinary loaf. A normal loaf weighs 800g whereas a gluten-free loaf is 400g
- Other gluten-free foods, such as cereals, cakes and ready meals, are not prescribable but are available from retail outlets

## The prescription

- Quantities of food are difficult to estimate. A useful starting point is for the patient to assess how much gluten-containing foods e.g. bread, pasta, flour, cakes, biscuits and pastries were consumed on a monthly basis **before** they started experiencing symptoms. Does the patient have the skills or facilities to cook or bake a great deal? However, bear in mind quantities i.e. one loaf of standard sized bread is not equal to a gluten-free loaf
- Pharmacists are likely to challenge requests for unusually large quantities of foods
- Large quantities of foods may be difficult to store and the shelf life of foods vary
- Having agreed a list of gluten-free foods for prescription, the GP needs to provide the patient with the flexibility to change items. It is important to advise the patient that other naturally occurring gluten-free carbohydrates are also essential and must be included e.g. rice, potatoes

*'Coeliac disease is a medical condition and dietary compliance is the key to successful management'*



# Patient considerations

## Healthy eating

Tables 3 and 4 detail the estimated average energy requirements per day of children, adolescents and adults.

**Table 3: Estimated average requirements for energy in children and adolescents**

Age (years)	Male (kcal/day)	Female (kcal/day)
1-3	1230	1165
4-6	1715	1545
7-10	1970	1740
11-14	2220	1845
15-18	2755	2110

**Table 4: Estimated average requirements for energy in adults assuming low activity levels at work and leisure (PAL=1.4)\***

Age (years)	Male (kcal/day)	Female (kcal/day)
19-49	2550	1940
50-59	2550	1900
60-64	2380	1900
65-74	2330	1900
75+	2100	1810

\* PAL = physical activity level

It is recommended that 50% of the total energy intake in the UK diet is derived from carbohydrate. In the average household diet, cereal foods are the major contributors to the total carbohydrate intake.

## People with coeliac disease

There are key factors that need to be considered when prescribing gluten-free foods for people with coeliac disease (see Table 5).

**Table 5: Key questions to consider when prescribing gluten-free food**

Does the person with coeliac disease understand their condition and the importance of compliance?

What is the age of the patient e.g. an elderly patient may require smaller quantities of foods than an adolescent of 13-15 years?

What is the daily calorific requirement e.g. a young child is different to a 40 year old office worker or manual worker? Is the patient very active?

What are the cultural differences?

What was the patient's consumption of gluten-containing foods e.g. bread, flour, pasta, pizza, cakes and pastries prior to experiencing symptoms?

Has the patient tasted any samples of gluten-free foods?

What else is the patient eating to ensure a balanced diet?

Has the patient joined Coeliac UK for information and support?

*'A key question to consider is what was the consumption of gluten - containing foods prior to the patient experiencing symptoms'*



## Gluten-free foods: a prescribing guide

Analysis of the diets of adults and children with coeliac disease, based on food diary assessment by the panel dietitians, showed that 2-30% of total energy requirements came from specially manufactured gluten-free foods. The median energy intake from specially manufactured gluten-free foods may therefore be taken to be 15%.

Guidance for prescribing of gluten-free foods has been based on:

- gluten-free prescribable foods providing 15% of total energy<sup>2</sup>
- a review of consumption data from the National Diet and Nutrition Surveys
- consideration of The Balance of Good Health model
- prescribing gluten-free foods to meet 15% of total energy requirements would not increase the current average expenditure on gluten-free foods

Current prescribing costs for gluten-free foods is estimated by the Department of Health to be £520 per coeliac patient per year.

Gluten-free prescribable items have been allocated a 'unit' value based on their carbohydrate and energy content and their cost (see Table 6).

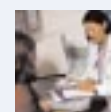
**Table 6: Number of units represented by the prescribable gluten-free food item**

Prescribable food item	No. of units
400g bread	1
400g rolls/baguettes	1
500g bread mix/flour mix/pastry mix/cake mix	2
100g sweet/savoury biscuits/crackers	1/2
150g sweet/savoury biscuits/crackers	3/4
200g sweet/savoury biscuits/crackers/crispbreads	1
250g pasta	1
500g pasta	2
2 x 110g-180g pizza bases	1

*'The Balance of Good Health is an important consideration in prescribing gluten free foods'*

Table 7 (overleaf) outlines the approximate **minimum** monthly requirement for various patient groups. The food examples given can be interchanged, i.e. bread mixes can be interchanged with rolls or loaves.

<sup>2</sup>Total carbohydrate should provide about 50% of energy intake. Non-milk extrinsic sugars should not exceed 11% of energy intake. Starches, intrinsic and milk sugars should therefore contribute about 39% of energy intake (DoH, 1991). Consumption of naturally gluten-free foods such as potatoes, rice and breakfast cereals will also contribute to energy requirements.



**Table 7: People with coeliac disease: minimum monthly gluten-free food prescription requirements**

Age group	Suggested no. units per month	Example minimum monthly prescription (items can be interchanged e.g. bread mixes can be interchanged with rolls or loaves)	
Child 1-3 years	10	4 x 400g loaves of bread (or 2 x 500g mix suitable for making bread) 1 x 500g pasta	2 x 200g biscuits 1 x 500g flour mix
Child 4-6 years	11	4 x 400g loaves of bread (or 2 x 500g mix suitable for making bread) 2 x (2 x 110/180g) pizza bases	3 x 200g biscuits 1 x 500g flour mix
Child 7-10 years	13	6 x 400g loaves of bread (or 3 x 500g mix suitable for making bread) 1 x 500g pasta 1 x (2 x 110/180g) pizza bases	2 x 200g biscuits 1 x 500g flour mix
Child 11-14 years	15	6 x 400g loaves of bread (or 3 x 500g mix suitable for making bread) 2 x (2 x 110/180g) pizza bases	3 x 200g biscuits 1 x 500g flour mix 1 x 500g pasta
Child 15-18 years	18	6 x 400g loaves of bread (or 3 x 500g mix suitable for making bread) 2 x (2 x 110/180g) pizza bases	4 x 200g biscuits 2 x 500g flour mix 1 x 500g pasta
Male 19-59 years	18	10 x 400g loaves of bread (or 5 x 500g mix suitable for making bread) 1 x (2 x 110/180g) pizza bases	1 x 500g pasta 2 x 200g crackers/crispbreads 1 x 200g sweet biscuits 1 x 500g flour mix
Male 60-74 years	16	10 x 400g loaves of bread (or 5 x 500g mix suitable for making bread) 1 x 500g cake mix	1 x 500g pasta 1 x 200g crackers/crispbreads 1 x 200g sweet biscuits
Male 75+ years	14	8 x 400g loaves of bread (or 4 x 500g mix suitable for making bread) 1 x 500g cake mix	1 x 500g pasta 1 x 200g crackers/crispbreads 1 x 200g sweet biscuits
Female 19-74 years	14	8 x 400g loaves of bread (or 4 x 500g mix suitable for making bread) 1 x (2 x 110/180g) pizza bases	1 x 500g pasta 2 x 200g crackers/crispbreads 1 x 200g sweet biscuits
Female 75+ years	12	6 x 400g loaves of bread (or 3 x 500g mix suitable for making bread) 1 x 500g cake mix	1 x 500g pasta 1 x 200g crackers/crispbreads 1 x 200g sweet biscuits
Breastfeeding	Add 4 units	1 x 500g pasta 1 x 200g crackers/crispbreads	1 x 400g loaf of bread
3rd trimester pregnancy	Add 1 unit	1 x 200g sweet biscuits	
High physical activity level	Add 4 units	1 x 500g pasta 1 x 200g sweet biscuits	1 x 200g crackers/crispbreads

Additional copies of this table are available - please telephone 01932 350006.



# Healthcare professional considerations

- Has the patient applied for a certificate of prepayment of prescription charges (FP95)
- Each prescription should be for a one month supply of gluten-free foods
- Initiating the first prescription via a computerised system can take time - up to one hour of the GP's time
- List all the foods that the patient may require, with the quantity of each so that the patient can select on the repeat prescription those that are required for that particular month and amend quantities as necessary
- Consult with a dietitian if there are issues regarding dietary management
- Ensure that the patient has joined Coeliac UK for information and support
- Many everyday foods are gluten-free and listed in Coeliac UK's food and drink directory
- Changes to the prescription can be delegated to an informed practice member and then checked by the GP

## Summary

Coeliac disease is unique among gastrointestinal disorders in that an effective dietary treatment is available that will restore almost all patients to full health, and help to protect against the development of complications.

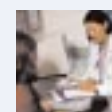
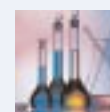
The best way to ensure good health is for patients to adhere to a strict gluten-free diet for life. Adherence to the diet however, is often perceived to be irksome and restricting and many patients find strict compliance difficult. Difficulties however, can mostly be overcome by skilled, sympathetic and well-informed GPs, consultant gastroenterologists, consultant paediatric gastroenterologists, paediatricians, dietitians (and paediatric dietitians), nurses and pharmacists who can provide patients with good, sensible, practical advice that relates to their individual, everyday experience.

It has been clearly shown that those patients who are regularly reviewed adhere much better to their gluten-free diet than those who are left to their own devices.

It is also apparent that good dietary compliance is aided by the ease with which patients can obtain suitable amounts of gluten-free products on prescription. Coeliac disease is a disorder readily treated by diet and every effort should be made to ensure that patients understand this and have easy access to gluten-free products suitable for their needs and so reap the benefits of good health and well-being.

This document is an attempt to provide some indication of the amounts of prescribable gluten-free products that are appropriate for a range of people with coeliac disease. Wide consultation among healthcare professionals and patients has been undertaken in their formulation. It is hoped that they will be of value to all those who offer medical and dietetic support to patients with coeliac disease.

*'It is apparent that good dietary compliance is aided by the ease with which patients can obtain suitable amounts of gluten-free products on prescription'*



# Further reading

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# Web sites of interest

Coeliac UK  
**[www.coeliac.co.uk](http://www.coeliac.co.uk)**

Primary Care Society of Gastroenterology (PCSG)  
**[www.pcsq.org.uk](http://www.pcsq.org.uk)**

British Dietetic Association (BDA)  
**[www.bda.uk.com](http://www.bda.uk.com)**

British Society of Paediatric Gastroenterology Hepatology and Nutrition (BSPGHAN)  
**[www.bspghan.org.uk](http://www.bspghan.org.uk)**





