Improving life for people affected by inflammatory bowel diseases

crohn's and colitis UK

Inform Support Research

Food and IBD

Crohn's and Colitis UK is the working name of the National Association for Colitis and Crohn's Disease (NACC). NACC is a voluntary Association, established in 1979, which has over 30,000 members and 70 Groups throughout the United Kingdom.

Membership of the Association costs £12 a year. New members who are on lower incomes due to their health or employment circumstances may join at a lower rate. Additional donations to help the work of the Association are always welcomed.

We hope that you find the information helpful and relevant. We welcome any comments from readers, or suggestions for improvements. References or details of the research on which this publication is based, and details of any conflict of interest, can be obtained from Crohn's and Colitis UK at the address below. Please send your comments to Glenys Davies at Crohn's and Colitis UK, 4 Beaumont House, St Albans, Herts AL1 5HH or email glenys.davies@crohnsandcolitis.org.uk.

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Introduction

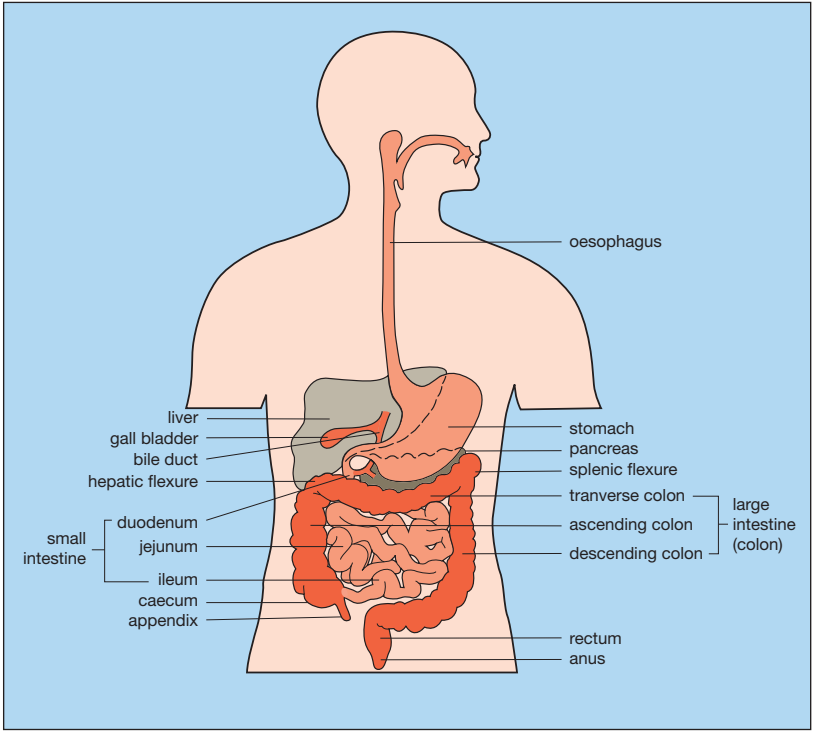
If you have Ulcerative Colitis (UC) or Crohn's Disease (the two most common forms of Inflammatory Bowel Disease - IBD) you may be wondering whether food plays a role in causing your illness or treating your symptoms. This booklet looks at some of the most frequently asked questions about food and IBD, and provides background information on digestion and healthy eating for people with IBD.

Food is essential for everybody and is usually one of life's pleasures. With IBD, you may find that certain foods affect your symptoms, or that digesting some foods may be more difficult. However, the importance of good nutrition remains the same. Some people may find it helpful to alter their diet slightly, but do remember that everyone is different - IBD is a very individual condition, and what works for others may not suit you.

What happens when we eat food?

To understand the effect food has on the gastrointestinal (digestive) system, it can be helpful to know the main features of the system and what happens when we eat.

The gastrointestinal tract (gut) is like a long tube running all the way from the mouth to the anus. Its main purpose is to break down (digest) the food that we eat in order for our bodies to absorb the nutrients in the food. These nutrients are used to give us energy and help our bodies to grow and repair themselves.



When we eat, food passes down the oesophagus and into the stomach, where digestive juices break it down further.

The stomach empties the food into the small intestine (also known as the small bowel). Here the food is broken down even further so that nutrients can be absorbed through the wall of the intestine into the blood stream.

The waste products from this process, which include liquid and undigested parts of food, pass into the colon (also known as the large intestine or large bowel). Bacteria break down these waste products. The lining of the colon then absorbs most of the remaining water to produce solid faeces (stools). The faeces collect in the rectum until they are ready to be passed out of the body through the anus in a bowel movement.

What happens in people with IBD?

Crohn's Disease and Ulcerative Colitis both cause inflammation in the digestive system. In Crohn's Disease, this inflammation can be anywhere from the mouth to the anus – it is most common in the small intestine or colon. All layers of the lining of the bowel may become inflamed.

In Ulcerative Colitis (UC), the inflammation is restricted to the colon (large intestine) and rectum, and usually only the inner lining of the bowel is inflamed. IBD can cause symptoms such as diarrhoea, abdominal pain and bloating. If the small intestine is affected, as can be the case in Crohn's, the inflammation can also hinder the body's ability to digest food and absorb nutrients.

Does food cause IBD?

Considerable research has been undertaken to look for any possible link between diet and IBD. Scientists have investigated a wide range of food and nutrients to see if they play a role in the development of the disease. Researchers have suggested that there could be links between IBD and a diet high in fats and sugars. In the past, IBD rates have been lower in non-Western countries, such as Japan, than in Western Europe and North America. However, in the past few decades the number of people with IBD in Japan has been rapidly increasing. Researchers have also noted that many Japanese people now eat a more westernised diet – a diet typically high in fats and sugars. So the suggestion is that it could be this change in diet which has led to the increase in IBD. There have also been other studies, including a large European study, which fit in with this theory. These have found a possible link between UC and linoleic acid (a fatty acid found in red meat, margarine and cooking oils such as corn and sunflower oils). It has also been suggested that a diet high in the types of sugars found in sweets and confectionery may have a link with IBD. However, research about food and IBD is conflicting and not all studies agree, so scientists are still discussing whether and how food may play a part in causing IBD.

Can food cure IBD?

So far, the only form of dietary treatment that has been found to be effective in helping people with IBD is exclusive enteral feeding (a liquid diet), which is covered later in this booklet. While you may come across a number of other diets claiming to cure IBD, the majority of these do not have sufficient evidence to support their claims. However, there is evidence that specific aspects of nutrition are important in IBD, and that, as with any ongoing condition, it is vital to keep well nourished. So, it is important to try and eat as balanced and healthy a diet as possible.

Healthy Eating and IBD

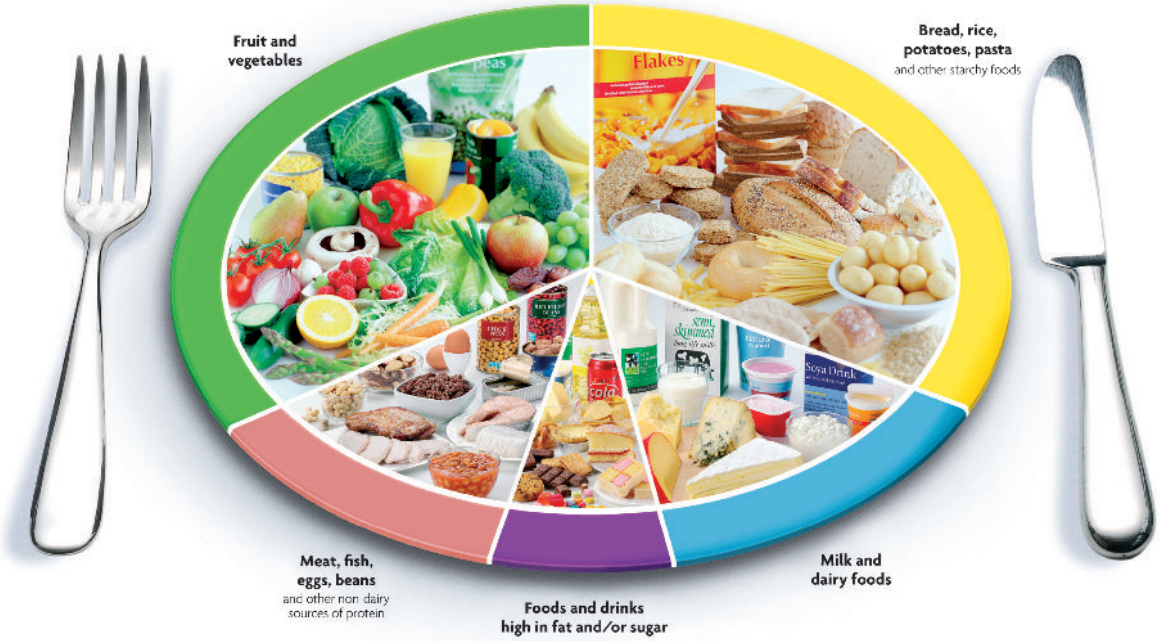
Food provides us with nutrients that give us the energy to go about our everyday activities, and to help our bodies to repair and grow. We need to eat a healthy balanced diet in order to receive all of the nutrients our bodies require.

The main nutrient groups are:

- **Carbohydrates** - these are a major source of energy. There are two types of carbohydrates – complex and simple. Complex carbohydrates include starch and fibre, and are found in foods such as potatoes, cereals, pasta and bread. Simple carbohydrates are sugars, and can be found in fruits, vegetables and milk, as well as in confectionery, cakes and biscuits.
- **Protein** - proteins are made up of molecules called ‘amino acids’. Your body uses these for the growth and repair of body tissue, and to make enzymes, hormones and muscle. Protein can be obtained from meat, eggs and milk, as well as nuts and beans.
- **Fat** - this is a concentrated energy source. It also helps protect our internal organs and is required for our glandular and immune systems, and to help absorb certain vitamins.
- **Vitamins** - these are a group of nutrients found in small amounts. An example is vitamin D, which helps to maintain healthy teeth and bones.
- **Minerals** - minerals are chemical elements. Examples are calcium which is needed for strong bones, and iron which is needed for red blood cells.

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Department of Health in association with the Welsh Government, the Scottish Government and the Food Standards Agency in Northern Ireland

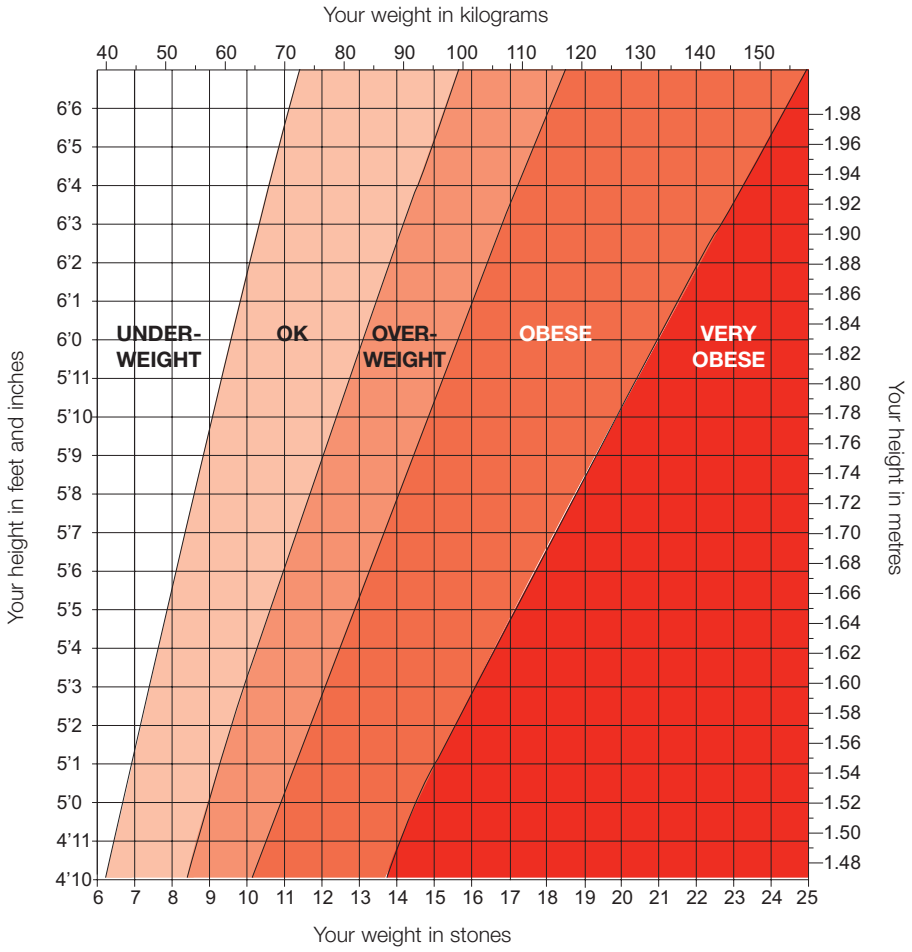
The Eatwell Plate from the Department of Health shows one way of making sure you get a good balanced diet by choosing foods from each of the five main food groups. This includes everything you eat during the day, including snacks.
It suggests eating:

- Plenty of fruit and vegetables
- Plenty of bread, rice, potatoes, pasta and other starchy foods
- Some milk and dairy foods
- Some meat, fish, eggs, beans and other non-dairy sources of protein
- Just a small amount of foods and drinks high in fat and/or sugar.

If you have IBD, you may have problems managing food from all five groups. During an IBD flare-up you may need to make temporary changes to your diet. This can mean significant changes, as described later on, or perhaps just finding manageable foods from each of the groups above. You may find by trial and error that there are certain foods which trigger your flare-ups and that it helps to avoid these. However, if you find that cutting out foods makes no difference, you should add them back into your diet. It may help to keep a food diary in order to keep track of what you eat and when your symptoms occur.

How can I tell if I am getting enough nutrition (goodness) from my food?
One way of checking whether you are getting enough nutrition is to work out your body mass index (BMI). This is calculated by dividing weight by height squared. You can use the chart on the next page to work out whether you are a healthy weight for your height. This chart is for adults - your doctor or nurse should have a special age-related growth chart for children. Remember when looking at the BMI chart that size and weight also depend on your family history and lifestyle factors. In addition to weight there are other ways of measuring how well nourished you are and, in particular, how strong you are. Your IBD team may use blood tests to check for nutrients such as iron or potassium, or they may use a bone scan to check whether you are receiving enough calcium.

Are you the right weight for your height?



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What should I do if I am losing weight?

Fluctuating weight is commonly seen in people with IBD, reflecting flare-ups and periods of remission. Weight loss can be a good indicator that you are not getting enough nutrients. You should tell your IBD team if you have lost weight unintentionally. Of course, not all people with IBD are underweight. For example, many people find that they gain weight if they are on steroid medication. This is often because steroids can increase your appetite, but it could also be due to fluid retention.

One reason for losing weight might be because you are not eating as much food as you need due to pain or discomfort. You may also have trouble absorbing nutrients from food because of inflammation in the intestines, bacterial overgrowth, or diarrhoea and vomiting. Some medications can also suppress nutrient absorption: for example, steroids can reduce the absorption of calcium, and sulfasalazine can reduce the absorption of folic acid.

During a flare-up, it is important to try to maintain your weight. You may need to eat more energy and calorie rich foods. Try to follow healthy eating guidelines, as mentioned in the previous section, to help make sure you are not deficient in minerals and vitamins. Diets to increase or gain weight should be discussed with your IBD team to ensure that you are maintaining a healthy balance.

Ways to put on weight could include:

- Eating little and often throughout the day.
- Eating plenty of protein and energy rich foods.
- Drinking soups, juices and smoothies rather than just tea or coffee.

When in remission, it is still important to maintain a healthy weight. Putting on a bit more weight may act as a way to ensure that you have a ‘reserve’ should you have a flare-up in the future.

If you are still having problems maintaining your weight through eating ordinary food, you could ask for a referral to a dietitian.

Food Safety

Food safety is important to minimise the risk of food poisoning – which can be especially nasty for people with IBD. Food poisoning is always unpleasant, so it is sensible to follow good hygiene practices and think about where you eat out or buy take-away food. More information on hygiene and food safety is available from the Food Standards Agency (see *Other useful organisations* at the end of the booklet).

Some people with Crohn's Disease may be worried about drinking milk because of publicity about research on a bacterium called MAP (*mycobacterium avium* subspecies *paratuberculosis*), which is present in a small proportion of the milk bought in shops. At present, evidence for MAP being a cause of Crohn's Disease does not appear strong enough to justify advising people not to drink milk.

Diarrhoea

There can be many causes for diarrhoea, some related to IBD and some not. It could be caused by infections, side effects of medications, or by the inflammation caused by IBD itself. If you have a lot of diarrhoea and pain, you may find it tempting to stop eating. However, it is important to continue eating and drinking enough in order to stay well nourished and hydrated.

Some people find that eating fibre can make diarrhoea worse, and try to avoid it during a flare-up – for more information see the section on Fibre and IBD. You should try to reintroduce fibre back into your diet once the flare-up is over. It may also help to avoid spicy or fatty foods during a flare-up. Alcohol and caffeine (found in coffee, tea and cola) can make diarrhoea worse. You could try drinking decaffeinated tea or coffee, or try herbal teas.

For more information about diarrhoea, and suggestions on how to deal with it, see our information sheet *Managing Diarrhoea*.

Dehydration

One of the main side effects of diarrhoea can be dehydration. This happens when our bodies do not have enough water. To treat dehydration, you need to rehydrate your body by drinking more fluids. Nutritious drinks such as milkshakes or smoothies, hot chocolate, or fruit juice will give you more nutrients than you would get by drinking tea or water. You could also try adding sugar or honey to drinks to give you more energy.

If you are very dehydrated, you may have lost salts and sugars from your body as well, which you need to replace. One way to do this is by drinking a commercial oral rehydration solution, such as Dioralyte or Electrolade. If you are extremely dehydrated your doctor or IBD team may recommend that you drink an Oral Rehydration Solution (ORS). For more information on dehydration and ways to avoid and treat it, see our information sheet *Dehydration*.

Constipation

Some people with IBD have constipation, especially if they have proctitis (inflammation in the rectum). Constipation can be defined as opening the bowels fewer than three times a week, needing to strain, or passing hard pellet-like stools. You may find that a stool passing over an area of inflammation in the colon can be particularly painful.

Drinking plenty of fluids may help form stools that are easy to pass. It may also help to increase the amount of fibre in your diet, although this is not suitable for all people. Some people may find oral fibre supplements or a stool softening laxative help to form easily passed stools. If you are worried about constipation, speak to your IBD team or doctor.

Bloating and wind

Many people with IBD are concerned about the effects of wind (pain, tummy gurgling and smelly release). It is normal to have gas, whether or not you have IBD, and the average person passes wind between 3 and 40 times a day.

Bloating and wind may come from swallowing too much air when eating or talking. It can also be caused by over-production of gas by bacteria in the colon. If you want to reduce the amount of gas you are passing, you could try cutting down on some foods that are known to be more 'gassy' than others, for example, fizzy drinks, spicy foods, legumes (peas, beans) and brassica vegetables (cabbage, cauliflower, broccoli).

Caffeine and food containing sorbitol (an artificial sweetener) have also been found to increase bloating and wind. Foods with a high fat content, especially sauces, also tend to produce bad-smelling gas. Eating slowly with your mouth closed, and fully chewing each mouthful should help minimise swallowing air. For more information, see our information sheet *Managing Bloating and Wind*.

Tiredness, fatigue and anaemia

People with active IBD often feel tired and lethargic. This can be due to the IBD, but may also be related to poor diet, malabsorption, or lack of iron. If you often feel extremely tired, you should tell your IBD team.

Iron deficiency is common among people with IBD. It may be caused by lack of iron in the diet, blood loss, or difficulties in absorbing iron. Lack of iron can lead to anaemia – where the red blood cells cannot carry as much oxygen around the body.

Anaemia can cause tiredness, reduced appetite and shortness of breath. So it is sensible, if you can, to eat plenty of foods rich in iron. These include red meats, eggs, dark green

leafy vegetables, fortified breakfast cereals and pulses (peas, beans and lentils). Some people with iron deficiency may require treatment with iron tablets (or injections). Your doctor will advise you if this is the case.

Feeling tired may discourage you from shopping for food or preparing meals, but not eating enough could make you feel even more tired. Help from family and friends can become especially important. Ready meals can be a useful alternative to spending a lot of time and energy cooking. If you are able to shop online, you could have your shopping delivered to your door.

Bone strength

Calcium is important for healthy bones. We get calcium from our food, in particular from dairy products and calcium enriched dairy alternatives such as soya or rice milk. Lack of calcium can lead to osteoporosis.

Osteoporosis

The word ‘osteoporosis’ literally means ‘porous bones’. People with osteoporosis have thin, fragile bones, which can lead to an increased risk of fractures. Osteoporosis is more common as people get older, especially in postmenopausal women. It occurs more frequently when there is a family history of the condition.

People with IBD are at a higher risk of osteoporosis due to:

- use of steroid treatment
- low body weight and malnutrition
- avoidance of dairy products
- malabsorption of calcium and vitamin D which can occur in Crohn’s Disease
- possibly the inflammatory process itself.

You can help to reduce your risk of developing osteoporosis by eating plenty of calcium rich foods, maintaining an active lifestyle with regular weight bearing exercise, and by avoiding smoking and reducing alcohol intake. The recommended amount of calcium per day is 1,000mg for adults and 1,200-1,500mg for postmenopausal women and men over 55 years old.

Calcium rich foods include cow's milk and dairy products, calcium enriched dairy alternatives, fish with edible bones, and green vegetables like spinach, kale, broccoli and watercress. If you are not getting enough calcium in your diet, you may need to take a calcium supplement. It is important to discuss this with your doctor. Some doctors routinely recommend calcium (or calcium with vitamin D) supplements during steroid treatment because steroids have been shown to reduce calcium absorption. However, there may be a limit to the positive effects of calcium: some studies have shown that too much calcium may increase the risk of fractures as well as causing other problems such as kidney stones.

Vitamin D is important for strong bones – it helps your body absorb calcium and phosphate. A small amount of vitamin D can be obtained from foods such as oily fish and eggs, but the most effective way to make sure you get enough vitamin D is to expose your skin to sunlight. Up to thirty minutes of sunlight a few times a week during the summer months should be enough to achieve healthy vitamin D levels. This is not the same as sunbathing, and it is important not to get sunburnt - too long in the bright sunshine can increase the risk of skin cancer. Take even more care not to get burnt if you are on immunosuppressant drugs, such as Azathioprine, 6-Mercaptopurine, and Methotrexate, because these make your skin more sensitive to sun damage. Wearing sun block should help prevent this happening. If your doctor finds that you are very vitamin D deficient, they may recommend a vitamin D supplement.

For more information about bones, see our information sheet *The Bones and IBD*.

Food intolerance and allergies

Some people with IBD may find that certain foods aggravate their symptoms, especially during a flare-up. Foods that are spicy or contain dairy products may trigger off temporary symptoms such as diarrhoea during a flare-up, and may be best avoided for a short while. However, some people can develop longer lasting intolerances, such as an intolerance to lactose. A small number of people may have coeliac disease – where they cannot tolerate gluten (found in wheat, barley and rye). Your doctor can do a blood test to check whether this is the case with you.

- **Lactose intolerance**

Lactose is a sugar found in animal milk and milk products. If you have found that drinking milk or eating milk products gives you diarrhoea, it is possible that you are intolerant to lactose. People who are lactose intolerant lack an enzyme called 'lactase' which is produced in the small intestine and breaks down the lactose into a form which the body can absorb.

Some people are born with an intolerance which gets worse over time - this is called primary lactose intolerance. Secondary lactose intolerance can be caused by damage to the small intestine, which can happen with Crohn's Disease. Research has shown that people with Crohn's Disease in their small intestine are more likely to be lactose intolerant, while people with UC have the same chance of being lactose intolerant as the general population.

Lactose intolerance can be managed by following a low lactose or lactose free diet. Most people who are lactose intolerant can usually tolerate a small amount of lactose in their diet. In some people, lactose can be avoided temporarily and then gradually reintroduced. Lactose free milks include soya, rice, oat and lactose free cow's milk. Do bear in mind that

avoiding milk and other dairy products could reduce the amount of calcium in your diet, and that calcium is important for bone health. (See the section on *Bone Strength*). Other good sources of calcium include white bread, tinned fish (including the bones) and fortified soya milk (check the label to make sure it has additional calcium). You may also have to take a calcium supplement. Your IBD team or your dietitian can help you discover if you are lactose intolerant. Because milk and dairy products are an important food group it is better not to give them up until you have had a positive lactose intolerance test.

- **Food allergies**

Food allergies are different from food intolerances. A food allergy is more uncommon, and normally involves a severe reaction to a small amount of food. The reaction can involve rashes, wheezing, severe gut symptoms, and sometimes a sudden collapse. Very small amounts of food can trigger a food allergy. You can obtain more information from Allergy UK (see *Other useful organisations*).

Should I go on a special diet?

- **Enteral Nutrition**

Some people with IBD may be prescribed an exclusive liquid diet, usually lasting for 2-8 weeks. This liquid diet is often referred to as ‘enteral nutrition’ or ‘enteral feeding’, or it may be referred to as ‘nutritional therapy’. People on an exclusive liquid diet do not need to eat ordinary food or drink because the liquid feed provides them with all the necessary nutrients. Exclusive enteral nutrition is commonly used in children because it can improve growth by providing easily digested nutrients. It can avoid the use of steroids by helping to heal the bowel and allowing it to rest.

There are three types of enteral nutrition:

- elemental
- peptide
- polymeric.

These liquid diets are made up of very small simple molecules which can be easily digested. The elemental liquid diet contains single amino acids, the peptide diet contains short chain proteins, while the polymeric diet contains whole proteins. The diets have been found to be equally effective. They come in different flavours, which you may be able to try to see which you like best.

Some people who go on an exclusive enteral diet add food slowly back into their diet using a food reintroduction diet. A food reintroduction diet can be used to identify any foods that may induce symptoms or cause problems. Examples of food reintroduction diets include general elimination diets, and the LOFFLEX diet (LOw Fibre, Fat Limited, Exclusion diet) which excludes foods high in fat and fibre, before slowly reintroducing them.

Adults are less likely to need to have exclusive enteral nutrition, but may find it helpful to take enteral nutrition as a supplement alongside their normal food if they require extra nutrition. Your doctor or dietitian will decide whether this is necessary.

- **The Low FODMAP diet**

FODMAP is an abbreviation for a group of molecules found in food called fermentable carbohydrates. The initials stand for ‘Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols’. These molecules are difficult to digest properly, so the undigested molecules pass into the colon where they act as a food source for bacteria.

The bacteria digest the FODMAPs and in doing so can cause symptoms such as bloating and wind. Cutting out food containing FODMAPs is thought to relieve these symptoms, and many people with Irritable Bowel Syndrome (IBS) have found low FODMAP diets especially useful.

Research has suggested that people with inactive IBD may also have IBS or IBS-like symptoms, and that a low FODMAP diet may be beneficial for some of these people. However, it has not been found to be useful for people with active IBD.

A low FODMAP diet involves cutting out quite a few foods. FODMAPs include foods containing fructose (found in some fruits), fructans (found in garlic, wheat, onions, leeks and rye), lactose (found in dairy products), galacto-oligosaccharides (found in beans and pulses), and polyols (found in some fruits, and artificial sweeteners like sorbitol).

Depending on your symptoms and diet, not all FODMAPs may need to be excluded. That said, in general, a low FODMAP diet is usually very restrictive and can be quite difficult to follow. If you want to follow a low FODMAP diet, get the help of a dietitian because you may miss out on important nutrients. Also, such diets may not be suitable if you have active disease.

- **The Specific Carbohydrate Diet (SCD)**

This is an extreme form of low carbohydrate diet which restricts sucrose (sugar), lactose, and all grain products (including corn, wheat, barley, oats and rice), as well as starchy foods like potatoes and parsnips. This means that the diet is extremely hard to follow.

The theory behind the SCD is that it is harder for your body to digest these carbohydrates, which means that they are left in the intestines to be digested by unwanted ‘bad’ bacteria that produce gas and harmful toxins. The gas and toxins can cause symptoms such as

bloating and diarrhoea. Cutting out the long chain carbohydrates, it is argued, will starve these 'bad' bacteria in order to reduce their number and prevent them causing harm.

Fans of the diet have suggested that some people with IBD may find it beneficial. As yet, very little scientific research has yet been done on the diet and there is no conclusive evidence that it works. Again, if you are thinking of attempting the diet, talk to a dietitian first as it can be very difficult to follow without becoming malnourished.

- **Probiotics and Prebiotics**

Probiotics are a mixture of live 'friendly' (beneficial) bacteria taken by mouth. The aim of taking probiotics is to increase the number of beneficial bacteria in the colon. Probiotics can be found in special fermented milk drinks and yogurts, or be taken in tablet form.

There is good evidence that probiotics such as VSL#3 can be used to help prevent pouchitis (inflammation of an ileo-anal pouch). Research also suggests that some probiotics may have a use in maintaining remission in people with UC. However, there is no clear evidence that probiotics can help maintain remission in people with Crohn's Disease - more research is needed in this area.

Unlike probiotics, prebiotics do not replace the bacteria. Prebiotics are dietary substances, mainly consisting of non-starch polysaccharides and oligosaccharides, which are poorly digested by humans. Instead, they provide a food source for beneficial bacteria in the gut, and encourage them to breed. Prebiotics favour the growth of beneficial bacteria over harmful bacteria. Foods containing naturally occurring prebiotics include wheat, onions, bananas, garlic, leeks and honey. However, the role of prebiotics in IBD is not fully understood and as yet there is no evidence that taking prebiotics will help people with IBD.

- **Herbal remedies and other supplements**

There are plenty of other supplements that claim to treat IBD. Some people with IBD have found that particular herbal remedies, such as aloe vera, do help to relieve their symptoms. However, many of these supplements are still being researched, and although they may help some people, there is no conclusive evidence about when or how they will work. It is difficult to know, with confidence, whether there is a direct physical effect, or a general psychological benefit (placebo). Also, everyone is different, and what may help one person may not have any effect on another.

If you do want to take a complementary or alternative product, consult your doctor first and do not stop any prescribed medication without discussion, even if your symptoms improve.

Fibre and IBD

Fibre is a type of carbohydrate found in plants. It is not a nutrient, and contains no vitamins or calories, but still plays an important part in our diet. Fibre helps the digestive system to work properly. It softens stools and makes them bulkier and easier to pass. It can also encourage the growth of 'friendly' bacteria in the colon and help to slow down carbohydrate breakdown in order to control blood sugar levels.

There are two different types of fibre – soluble and insoluble. Soluble fibre (which includes peeled fruit and vegetables without seeds and stalks, oats, barley and pulses) is completely broken down by bacteria in the gut to form a gel like substance. It is useful in lowering cholesterol levels and slowing down the entry of glucose into the blood to improve blood sugar levels.

Insoluble fibre (such as seeds, pips and wheat bran) cannot be fully broken down by our digestive system. It adds bulk to the stools which helps them to pass through the gut more

easily, although it may also cause bloating and sometimes abdominal pain. Altering the fibre content of your diet may help to improve these symptoms.

Fibre can affect people with Crohn's and UC differently. If you have Crohn's Disease, you could develop strictures, meaning that you will have to be careful about the amount of insoluble fibre you eat – for more information see the section on '*What should I eat if I have a stricture*?' If you have UC, you may have found that eating too much fibre can increase the urge to go to the toilet (and associated fears of having an 'accident'). The urge to open the bowels is usually caused by inflammation in the lower colon, but, as fibre adds bulk to faeces, it can act as a trigger and make the urgency worse. During flare-ups it may be helpful to reduce the amount of fibre you eat, and perhaps go on a low fibre diet as described below. However, do talk to your IBD team before trying this. Once the flare-up is over, it is important to increase your intake of fibre again. Fibre is useful because it keeps the colon healthier as well as providing fuel for beneficial bacteria.

- **Low fibre diet**

Some people with Crohn's or UC may be recommended by a healthcare professional to try and follow a low fibre diet when they have a flare-up. The aim of a low fibre diet is to reduce the amount of fibre passing through the intestines, which should result in a smaller amount of stool being produced. If your doctor advises you to follow this diet, you may be given a food guidance sheet – an example is given below. You may find that it helps to chew food thoroughly and eat slowly, and avoid lumps of indigestible foods (such as meat gristle, vegetables stalks, skins and pith of fruit, dried fruit, mushrooms and nuts).

Foods to eat more of	Foods to be reduced/avoided
White bread Rice crispies, cornflakes etc White rice or pasta Well cooked vegetables Cooked or tinned fruit (no skin or seeds) Fruit or vegetable juices	Wholegrain or wholemeal cereals Wholemeal bread or pasta Brown rice Lentils, chick peas, beans and pulses Nuts and seeds Potato skins Raw vegetables, salads and fruit Vegetable stalks Skin, pith, seeds on fruit Dried fruit

What should I eat if I have a stricture?

If you have Crohn's Disease, you could develop strictures (narrowings) in your small intestine which may require surgery. If you have a stricture, you may need to modify your diet to try and avoid having a blockage in the stricture. Small, frequent meals or snacks, and taking your time to eat and chewing thoroughly may also help. Soft 'mashable' foods are often easy to tolerate.

You may also need to avoid foods which are more difficult to digest, such as fruit and vegetable skins, seeds, nuts, sweetcorn, beans and gristly meats, or you may need to follow a temporary liquid diet. The amount you will need to modify your diet depends on the nature of your stricture. Ask your IBD nurse, doctor, or a dietitian for more advice.

What if I am pregnant?

You may have additional concerns about your diet if you are pregnant. Before conceiving, try to eat a healthy, balanced diet to make sure you are not deficient in any nutrients. For example, vitamin B12 and zinc are particularly important for fertility in both men and women. You should discuss this with your specialist.

All women planning for pregnancy, whether or not they have IBD, should take folic acid supplements to reduce the chance of neural tube (spine) defects in the baby. The usual recommendation is at least 400 micrograms per day before conception and during the first 12 weeks of pregnancy. Taking folic acid can be particularly important for women with Crohn's in the small intestine, because their condition can prevent its absorption. You may be recommended to increase your folic acid supplement up to at least 2000 micrograms a day if you have had surgery to remove part of the small intestine, or are on sulphasalazine. Check with your doctor what level would suit you.

During pregnancy there should be a steady weight gain, which should be monitored by your GP or obstetric clinic. Drinking alcohol is not recommended during pregnancy.

You may need food supplements or dietetic advice to make sure that your protein and energy intake is appropriate – particularly if you have Crohn's. Be cautious of vitamin and mineral supplements and do not take them unless advised. Do not take vitamin A supplements because too much vitamin A could harm your baby. If you are getting your folic acid from a multi-vitamin supplement, do not take one that contains vitamin A (or retinol).

More advice for pregnant women on vitamin A, alcohol, folate and food safety is widely available from the NHS. Further information is contained in our information sheets *Pregnancy and IBD* and *Fertility and IBD*.

Should children eat differently?

Children and adolescents should still be growing and so will need extra nutrition to support their growth and development. This is especially important during the growth spurt which occurs during puberty. Some children, in particular those with Crohn's Disease, may have a delay in the onset of puberty. This may mean that your child's height is lower than that of their classmates, although they will probably eventually catch up. Control of inflammation plays a prominent role in maintaining adequate growth in children.

Some children may be put on an exclusive elemental liquid diet (see the section on diets). This is a particularly good way of treating Crohn's Disease in children because, unlike steroids, it tends to stimulate growth rather than suppress it. It provides extra nutrients which are very easy for the gut to digest, thus allowing the digestive system to rest and repair.

There is some evidence that children with oral Crohn's may benefit from avoiding carbonated drinks containing benzoates or cinnamon.

A high calorie diet may help when trying to catch up on growth between flare-ups. This may include calorie rich foods that might otherwise be seen as 'unhealthy'. However, the diet should be as balanced as possible and include adequate amounts of vitamins. Not all children may want to eat 'sensibly' all the time - this may be due to fussy eating or possible negative associations between food and symptoms. You may need to allow them to eat as they please for a while. However, it is important to aim to return to the EatWell Plate (page 7) in the long term.

Vitamin and mineral supplements may be recommended, such as calcium and vitamin D supplements to keep developing bones healthy. If your child is taking the elemental

liquid diet, the diet will be nutritionally balanced and additional supplementation is less likely to be required.

What if I have had surgery?

Surgery should not make a major difference to what you eat – but there are some points to bear in mind, depending on the type of surgery involved.

- **Removal of the ileum**

If you have Crohn's and have had all or most of your ileum removed, you may not be absorbing all the nutrients, such as vitamin B12, which your body needs. Vitamin B12 deficiency can be harmful, and may result in anaemia. Your doctor should be checking whether you are deficient, and may suggest that you receive a vitamin B12 supplement by injection.

The ileum also absorbs bile salts. These salts (which come from your liver) are used to transport and absorb fat. If you do not have enough ileum left to absorb them, they may spill over into your colon and cause watery diarrhoea. Your doctor can prescribe medication for this. For more information, see our information sheet *Managing Diarrhoea*.

- **Short bowel syndrome**

Anyone with less than 200cm of small intestine as a consequence of surgery is said to have a short bowel. On average, the length of a normal adult small intestine is approximately 600cm. This means that there is a reduced area available to absorb nutrients and you may have to go on a specialist diet in order to maintain a healthy weight.

Some people with a short bowel are at an increased risk of kidney stones and may need to go on a low oxalate diet. Your doctor or dietitian will be able to advise you about this.

A few people will have an extremely short bowel and in these circumstances, long term parenteral nutrition (nutrients passed intravenously into the bloodstream) may be recommended. It may be possible to have this done at home, and people can remain well on this treatment for a long time.

- **Ileostomy and internal pouch**

Having an ileostomy (where the colon has been removed and the small intestine ends in an artificial opening through the abdominal wall) should not mean you have to make drastic changes to your diet. This may seem unlikely in the weeks following your operation, but things should settle down over time. You may find that it helps to add foods to your diet one at a time in order to judge their effect on your digestive system.

More salt and water is lost via an ileostomy than in someone with a colon, because the colon absorbs water and minerals. This may mean that you will need extra fluid and salt to avoid dehydration, especially in hot weather.

With an ileostomy, there is generally no need for a special diet unless advised by a doctor. However, there are certain foods that you may find helpful to avoid. For example:

- Nuts, fruit skins, and some vegetables which may cause blockages.
- Fizzy drinks and ‘windy’ vegetables such as cabbages and beans which may cause gas,
- Beer, chocolate, and some fruit which may cause diarrhoea.
- Eggs and some types of fish as these can cause strong odours.

People with an internal pouch (known as an ileo-anal pouch), may also find it helpful to avoid the foods listed above. It may also be worth bearing in mind the following:

- Anal irritation can be caused by coconut, spicy food, nuts, some fruit and food with pips. They may also cause colicky pain (abdominal cramps), which is usually only temporary.
- Alcohol may cause dehydration (if taken in excess) and you may find beer and red wine increase pouch output.

The stoma nurse or a dietitian can provide dietary advice if you have a pouch or an ileostomy.

Conclusion

We hope that the information in this booklet will help you develop a pattern of eating which will increase your chance of feeling better, as well as being enjoyable. If you are still having problems with food or diet, or would like more information, do talk to your doctor or ask to speak to a dietitian.

You can ask your GP, IBD Nurse or IBD specialist to refer you to a dietitian on the NHS. You may also be able to find a private dietitian in your area via the Freelance Dietitians Group (www.dietitiansunlimited.co.uk). All dietitians are registered with the Health Professions Council (www.hpc-uk.org). If you choose to see a nutritionist, make sure they are appropriately qualified. More information is available from The Nutrition Society (www.nutritionsociety.org).

Further information

- **Crohn's and Colitis UK Information Line: 0845 130 2233, open Monday to Friday, 10 am to 1 pm, excluding English bank holidays.**
  An answer phone and call back service operates outside these hours. You can also contact the service by email info@crohnsandcolitis.org.uk or letter (addressed to our St Albans office). Trained Information Officers provide callers with clear and balanced information on a wide range of issues relating to IBD.

- **Crohn's and Colitis Support: 0845 130 3344, open Monday to Friday, 1 pm to 3.30 pm and 6.30 pm to 9 pm, excluding English bank holidays.**
  This is a confidential, supportive listening service, which is provided by trained volunteers and is available to anyone affected by IBD. These volunteers are skilled in providing emotional support to anyone who needs a safe place to talk about living with IBD.

- **Information sheets and booklets:**
  All our information sheets and booklets are available free from our office – call or email the Information Line. You can also download them from our website: www.crohnsandcolitis.org.uk

Other Useful Organisations

Allergy UK 01322 619 898
www.allergyuk.org

Coeliac UK 0845 305 2060
www.coeliac.org.uk

Crohn's in Childhood Research Association (CICRA) 020 8949 6209
www.cicra.org

Food Standards Agency 020 7276 8829
www.food.gov.uk

Health Professions Council 0845 300 6184
www.hpc-uk.org

IA – (Ileostomy and Internal Pouch Support Group) 0800 018 4724
www.iasupport.org.uk

National Osteoporosis Society 0845 450 0230
www.nos.org.uk

The British Dietetic Association (BDA) 0121 200 8080
www.bda.uk.com

The Nutrition Society 020 7602 0228
www.nutritionsociety.org

PINNT – Patients on Intravenous and Nasogastric Nutrition Therapy
www.pinnt.com

crohn's and colitis UK

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