



Gastroenterology Department

The Importance of Dietary Fibre in Inflammatory Bowel Disease

This leaflet explains the importance of dietary fibre in inflammatory bowel disease (IBD), and the differences between soluble and insoluble fibre.

If you would like any additional information, please contact the Inflammatory Bowel Disease Nurse Specialists or the Dietitian department (contact details below).

Fibre is a component of plant-based foods that are not digested or absorbed in the small intestine but are partially or completely broken down by bacteria in the large intestine. The recommended daily intake of fibre for an adult is 30g a day. Fibre has an anti-inflammatory effect on the bowel and studies have shown that a high fibre diet can help maintain a reduction in symptoms in IBD and reduce disease activity. Ongoing inflammation in the gut can cause flare symptoms such as diarrhoea, rectal bleeding, abdominal pain and cramping, fatigue and poor nutrient absorption.

An anti-inflammatory diet has a positive effect on the gut microbiome which consists of a “community” of multiple microorganisms such as bacteria, viruses, protozoa and fungi present in the large intestine. The gut microbiome plays a vital role in metabolite synthesis and communication with the immune system to aid its development and influence inflammatory responses. In the gut, fibre is fermented by the microbiome to form short-chain fatty acids and specific types of dietary fibre, known as prebiotics, which selectively stimulate growth of beneficial bacteria in the colon. Diets which are higher in fibre, unsaturated fatty acids, fruit, and vegetables, and low in red meat are more beneficial to the gut microbiome by increasing microbial diversity and beneficial bacteria as well as decreasing harmful bacteria.

Dietary fibre can be classified into soluble and insoluble sub-types. Most foods contain a combination of fibres such as chia seeds, flax seeds, psyllium seeds, beans, and legumes. Some sources contain a higher proportion of insoluble or soluble fibre, and some examples are listed here:

Insoluble fibre includes the skin on fruit and vegetables, brown rice, cauliflower, potatoes, broccoli, celery, green beans, nuts, seeds and pulses, whole grain products such as wholemeal bread, wholemeal pasta, oats, and cereal.

Soluble fibre includes carrots, apples, asparagus, turnips, sweet potatoes, spinach, squash, parsnips, black beans, dried peas and beans, courgettes and fruit (particularly figs, apricots, avocados and pears), oat cereals, and barley.

Insoluble fibre can increase symptoms of diarrhoea, bloating, gas and pain as it does not dissolve in water and remains undigested in the gut, therefore, increasing the speed of faecal contents. It is advisable to limit intake of insoluble fibre during IBD flares/relapses. Wholemeal bread can be replaced with potato bread, French bread or sourdough as they are milled to remove the bran and germ which reduces the insoluble fibre content.

It is important to gradually reintroduce insoluble fibre once the flare has passed to allow time for the gut microbiome to readjust, as insoluble fibre is more effective in preventing constipation as it increases the bulk of stools and aids regular defaecation.

In contrast, **soluble fibre** promotes water absorption and forms a gel-like consistency which helps to bulk the stool and may reduce symptoms of diarrhoea; therefore, adequate soluble fibre intake may help to reduce diarrhoea during a flare and reduce intestinal inflammation. Soluble fibre also helps to stabilise blood glucose levels and aid nutrient absorption by slowing movement of gut contents, which is often impeded in active IBD.

Certain fruits and vegetables may worsen symptoms, but this varies between different people; therefore, during a flare it is important to select fruits and vegetables which you find easier to digest. Cooking, peeling, and removing seeds from fruit and vegetables can help reduce intake of insoluble fibre when having flare symptoms. To retain a higher nutrient content, it is beneficial to steam vegetables rather than boil them.

Constipation can occur in disease flare-ups as dysmotility of the non-inflamed areas of the colon is common and is exacerbated by the omission of fibre in the diet. Constipation can subsequently increase inflammation of the gastrointestinal tract and augment abdominal pain; therefore, it is especially important that adequate intake of soluble fibre is maintained to prevent constipation. It is necessary to stay well hydrated as this decreases the risk of constipation and it is advisable to drink six to eight cups (1.5-2 litres) of water a day to prevent dehydration.

Restriction of dietary fibre is not recommended for patients with IBD unless there is a risk of obstruction. This could be due to intestinal strictures (narrowing of the bowel), as it may cause a blockage in the intestinal tract. If this applies to you, please discuss restricting dietary fibre with your Dietician or IBD nurse.

Contact Numbers:

We hope that you have found this information useful. If you have any questions or are worried about anything, please speak to the following Dorset County Hospital staff:

IBD Nurse Specialists: 01305 255102
Dietitian Department: 01305 254415

Useful Websites

For further information on Diet and IBD please refer to <https://crohnsandcolitis.org.uk/info-support/information-about-crohns-and-colitis/all-information-about-crohns-and-colitis/living-with-crohns-or-colitis/food>

About this leaflet

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If you have feedback regarding the accuracy of the information contained in this leaflet, or if you would like a list of references used to develop this leaflet, please email pals@dchft.nhs.uk



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