BioCare®

Shaping a healthier society

# The Good Gut Guide

Nutritional and lifestyle solutions for managing your IBS.

# Contents



Click to navigate.

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As many as **86%** of all British adults may suffer some form of **gastrointestinal problem**.[1] If we trust the old Hippocrates saying 'All disease begins in the gut', then that's quite a dire perspective. Indeed, an unhealthy gut can contribute to a **wide range of diseases** including diabetes, autoimmunity, hormonal imbalance, chronic fatigue, depression, and cardiovascular disease.

If you're reaching for this guide, it may be because you've been diagnosed with **Irritable Bowel Syndrome,** or perhaps you have a variety of digestive symptoms such as bloating, burping, constipation, diarrhoea, flatulence, reflux, etc.

There is an old Cherokee proverb which says: *"If you listen to your body when it whispers, you won't have to hear it scream".* Even mild gut symptoms are a sign of something being out of balance and shouldn't be ignored. The sad truth is, too many people suffer with digestive issues for far too long and we want to change that.

How can we optimise our gut health so we can be naturally healthy and nourished? How can we improve our diet and lifestyle to optimise gut health and how can we use vitamins, plant extracts and other nutrients in supplements to help?

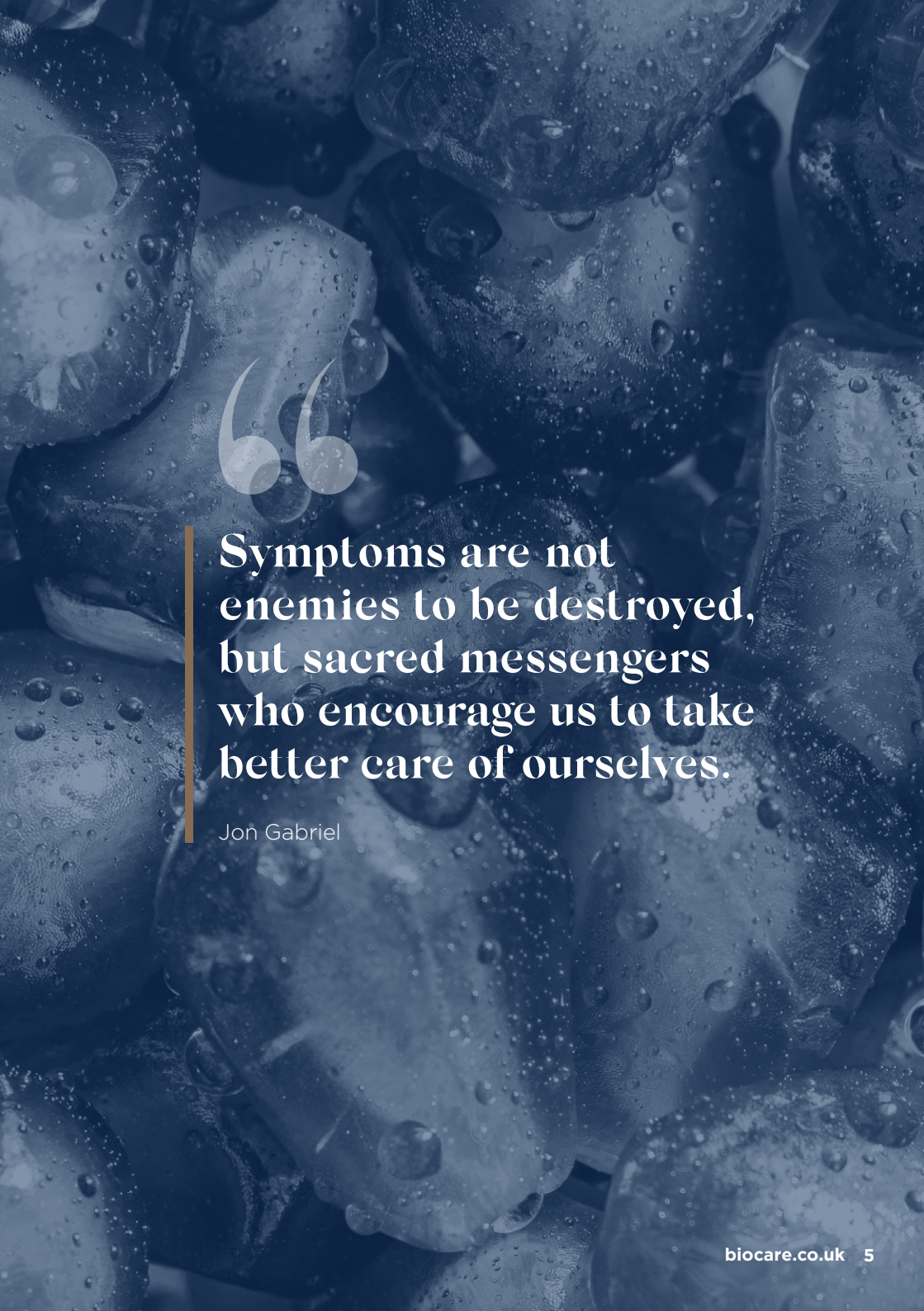
The **Good Gut Guide** is full of practical information and advice to help you understand your gut symptoms, so that you can make the **right nutritional choices for a healthier gut and healthier body.**

*BioCare Nutrition Team*

# Irritable Bowel Syndrome (IBS)

Irritable Bowel Syndrome, commonly known as IBS, is an increasingly common bowel disorder that affects up to 20% of the UK population.[2] The symptoms can be wide-ranging and different across individuals. They include **abdominal pain**, **reflux**, **bloating**, **constipation**, and **diarrhoea**. In addition, people with IBS often suffer with mood disorders such as **anxiety** and **depression**. In the eye of conventional medicine, there is no known cause to the condition. As there is no specific test for IBS, doctors would diagnose it by 'exclusion', making sure that your symptoms are not due to Inflammatory Bowel Disease (IBD), cancer, or another condition. If these are ruled out, standard treatments such as antispasmodics or laxatives may be used, depending on main symptoms. From a diet perspective, a low FODMAP diet (excludes a range of fibre-rich foods) is often recommended.

Using such an approach fails to recognise that **IBS** is a **multi-factorial condition** and to achieve effective results, it requires a multi-faceted and personalised approach. **Ignoring these symptoms and using medications such as proton pump inhibitors (PPIs) or antibiotics, may also deepen the problem or cause issues elsewhere**, for example malabsorption of nutrients and deficiencies, or compromised immunity and inflammation. Following naturopathic principles, we would look at the underlying causes of symptoms, and importantly support the whole system, understanding that the body, and the gut, are highly adaptive, interlinked systems.



> Symptoms are not enemies to be destroyed, but sacred messengers who encourage us to take better care of ourselves.

Jon Gabriel

# What's your IBS?

For some people, their IBS is largely due to disrupted motility; both slow and fast motility can be present in IBS, resulting in diarrhoea and constipation. Often also accompanied by painful cramps and spasms, that worsen by stress and anxiety. For others, it may be because they've taken a dose of antibiotics and their digestion has never been the same since. And for some, it may be more digestive, where after eating a meal it feels like food is stuck sitting heavy, causing distention, bloating and indigestion.

The point is, **everyone's IBS is different**, and likely to be affected by a variety of factors that are unique to that individual. So we almost need to **forget the 'IBS label' and look deeper** at what's going on with the gut bacteria, digestive secretions, the nervous and muscle function needed for motility. This way, we can really personalise the nutritional advice for effective results.

## If you've been told you have IBS, take a look through our 4 areas of gut health, check off your symptoms, and follow the relevant advice.

**Throughout this guide, we will take you through four key areas of gut health:**

- Digestion
- Balance of gut bacteria
- Gut integrity
- Gut motility

In each section, we've included a short checklist where you can tick your symptoms. By doing so, it may highlight that your issues lie in one area more than the others, but it is likely that you tick some symptoms across a few or even all of them as these areas largely overlap. Following that, we've included key nutritional and lifestyle advice you can follow to improve your gut health. Remember, you don't have to do it all: choose what's achievable and realistic for you and be consistent.

# Focus: Digestion

## Do you find it difficult to digest foods, perhaps resulting in bloating, burping or flatulence and do some foods sometimes not agree with you?

- I eat and finish meals quickly, eat 'on the go'
- I get indigestion after eating (abdominal pain)
- Certain foods don't agree with me meat, raw or lightly cooked vegetables, fatty foods
- I feel nauseous after eating
- There are bits of undigested food in my stools
- My stools are pale and floaty
- I burp a lot when eating
- I'm prone to flatulence
- I've lost weight/difficulty maintaining weight
- Diagnosis: I have IBS, gastritis, ulcers, hiatus hernia, gall bladder disease/removal, coeliac, pancreatitis, IBD, cystic fibrosis
- Medications: I take antacids, PPIs, NSAIDs

*Is this you?*

**If you've ticked a lot of symptoms, you might need support for your digestion.**

## How does digestion work?

Digestion involves the mechanical and chemical breakdown of food into smaller components that can be more easily absorbed and assimilated by the body. A host of digestive organs work in harmony (including the digestive tract, pancreas, liver, and gallbladder) to ensure that we can extract the nutrients from food to power the demands of the body.

The digestion process starts in the mouth with the action of chewing and the release of salivary enzymes before it goes into the stomach where it comes in contact with the stomach acid. Further down, the pancreas, the gut lining, and the liver release even more digestive enzymes and bile which facilitate digestion and absorption of nutrients. Our body produces a number of enzymes such as proteases for protein digestion, lipase and bile for fat digestion, pancreatic amylase for starch digestion, or lactase for the digestion of lactose in milk to help us digest and absorb nutrients. If any of those steps are compromised, the food will be poorly digested and potentially fermented by gut bacteria causing a number of uncomfort-able symptoms, affecting gut health in general, but we also won't absorb nutrients which will impede wider health.

**Listed on the right is a range of enzymes produced in the body and can also be found in digestive enzyme supplements.**

**Hydrochloric Acid (HCl)**
Breaks down proteins, destroys pathogens, helps with mineral and vitamin B12 absorption.

**Pepsin, Proteases, Bromelain, Papain**
Breaks down a wide range of proteins. Bromelain and Papain are also present in raw pineapple and papaya, respectively.

**Lipase and Bile**
Breaks down fats. Bile is also antibacterial and clears cholesterol.

**Amylase**
Breaks down complex carbohydrates, found in bread and cereals.

**Glucoamylase**
Breaks down polysaccharides found in cereals and root vegetables.

**Lactase**
Breaks down lactose from dairy products. Deficient in people with lactose intolerance.

**Maltase/Diastase**
Helps to break down the malt sugar found in carbohydrate foods, like starchy grains and vegetables.

**Sucrase/Invertase**
Breaks down sucrose found in sugar cane, sugar beets, honey, maple syrup, fruit and fruit juices, and vegetables.

**Alpha Galactosidase**
Breaks down carbohydrates found in raw legumes, cruciferous vegetables, and grains.

**Cellulase**
Breaks down cellulose (insoluble plant fibre), liberating nutrients. Not produced in the body.

**Xylanase**
Breaks down xylan found in high fibre vegetables, grains and legumes.

**Phytase**
Breaks down phytic acid in beans, nuts and legumes that inhibits absorption of many nutrients.

# Reflux

Gastro-oesophageal reflux disease (GERD), associated with a feeling of acid in your throat and a burning sensation in the chest, is a very common problem. The prevalence of GERD has increased by more than 70% in the last 30 years worldwide[3] and most of us have experienced it at some point in our life. In fact, at least 20% of people in the Western world have GERD, although the true prevalence could be higher, due to medication masking symptoms.[4] GERD is characterised by regurgitation of gastric contents into the oesophagus, causing burning, heartburn, chronic cough, laryngitis, asthma and dysphagia (difficulty swallowing).[5]

We often ignore the symptoms, but unfortunately, chronic reflux can lead to ulceration and an increased risk of oesophageal cancer.[3] A common misconception about reflux is that it is caused by excessive production of stomach acid. In actual fact, in many cases the stomach acid level is normal, or insufficient.[6, 7]

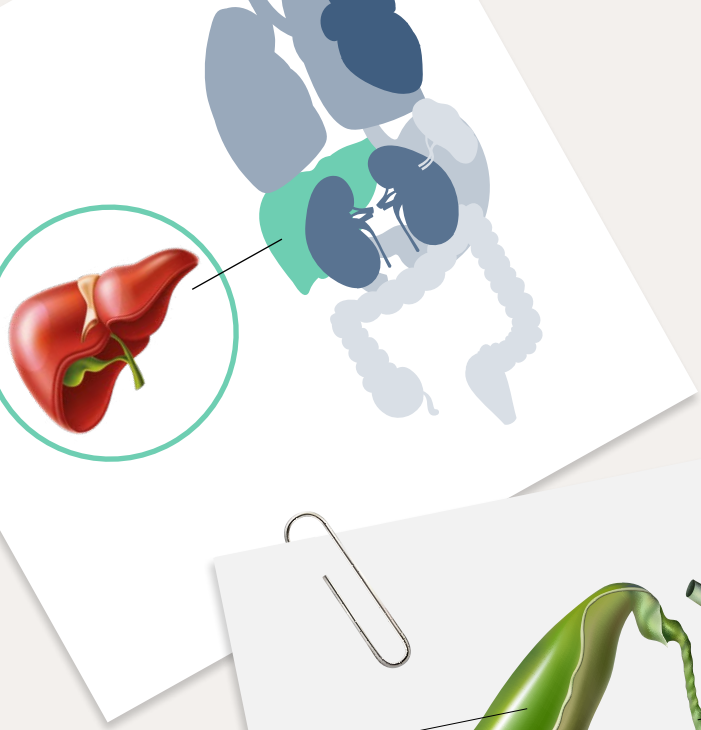
**Causes of Reflux:**

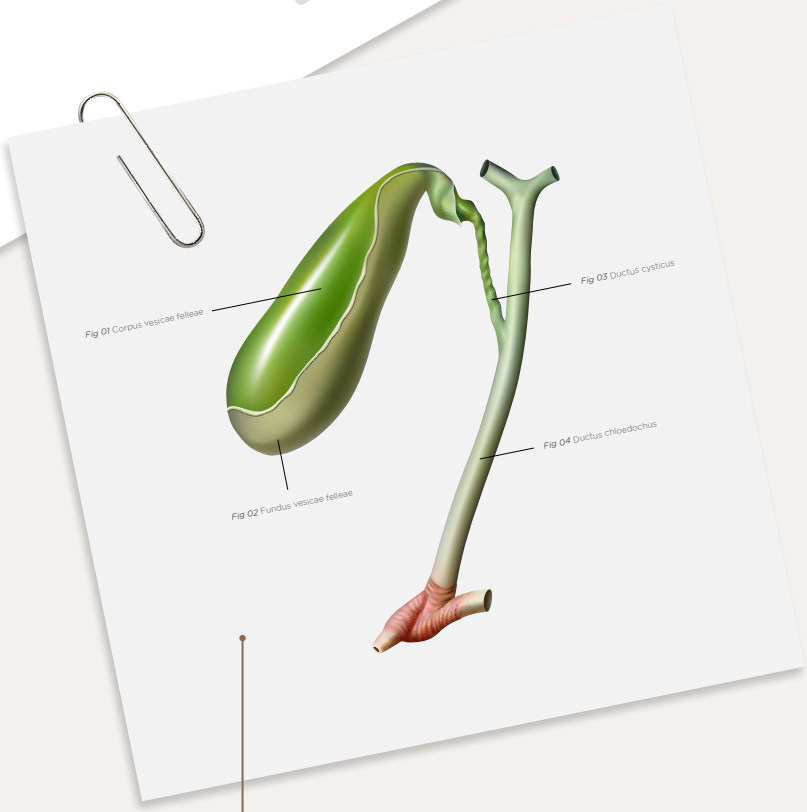
- Medications (e.g. anti-histamines, or proton pump inhibitors - PPIs)
- Excessive snacking, eating in a rush, eating too late at night
- Zinc and B6 deficiency (needed for stomach acid production)
- Bacterial imbalance (See Dysbiosis on page 23) causing excessive gas production and pressure building up in the abdomen
- High carbohydrate/processed food diet, smoking, alcohol, caffeine, fizzy drinks[8, 9]
- Obesity and inflammation
- Stress

# Fat digestion and gallbladder health

The gallbladder is located just under the liver and its main role is to store bile. **Bile** is released into the small intestine and acts as an **emulsifier to help breakdown fat** into smaller molecules. This helps with absorption of fats and fat-soluble vitamins including vitamin A, D, E and K from food. In addition to these main functions, bile also plays an important role in the removal of toxins and waste products from the body, inhibiting growth of harmful microorganisms, and stimulating bowel movements.[10, 11]

Insufficient production of bile can occur due to inadequate nutrient intake (e.g. choline, taurine, glycine), genetics, age, obesity, liver disease. This can result in fat maldigestion, often presenting with digestive discomfort such as bloating, nausea after a fat-rich meal, as well as diarrhoea, and pale, fatty and floaty stools. If you have chronic or more severe symptoms, including pain under the ribs which can radiate to the right shoulder or back, nausea, vomiting, indigestion,[12] make sure you get it checked with your doctors for the presence of gallstones.






## Gallbladder

The gallbladder is a small organ located just under the liver. Its main role is to store bile, which helps in the digestion of fats and absorption of fat-soluble vitamins.

# Supporting digestion with nutrition

## Reduce strain on the digestive track

Our food has become incredibly complex. Many foods have added flavourings, emulsifiers, and other additives. However, even healthy foods can sometimes be difficult to digest, especially if you have a compromised gut. Some specific foods such as spices, caffeinated and fizzy drinks, or citrus fruit can trigger reflux in some people.

- ✓ Avoid processed foods
- ✓ Focus on easily digestible foods such as soups, smoothies, and mashed vegetables
- ✓ Avoid trigger foods like spicy food, caffeine, alcohol, carbonated drinks, dairy, gluten and acidic foods like tomatoes
- ✓ Keep a food diary and take notes of the foods that cause issues, such as reflux, changes to bowel movement and allergic reactions

## Digestive enzymes

Taking additional digestive enzymes may significantly improve digestion and absorption of nutrients. Specific enzymes such as protease, lipase, glucoamylase, and lactose can improve the digestion of proteins, fats, carbohydrates, and lactose, respectively. Other enzymes such as cellulase or xylanase can help with fibre-rich foods, reducing their fermentation in the gut.

If you'd like to have a chat about your IBS symptoms and get advice on how to naturally support them, call our expert nutrition team on **0121 344 3727** or email **clinicalnutrition@biocare.co.uk**

## Targeted support for fat digestion

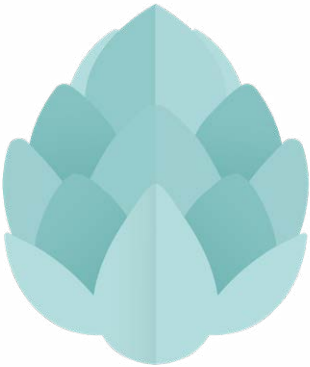
- ✓ Moderate fat/good fat intake in meals
- ✓ Increase bile promoting foods like radish, artichoke, turmeric, umeboshi plums, lemon juice, ginger, dandelion leaves and beetroot
- ✓ Increase intake of amino acids, choline, taurine and glycine, to promote bile production. Rich sources are eggs, soya, liver, scallops, tuna, turkey, chicken, seeds, salmon, seaweed

## Artichoke, Milk thistle and Choline

Artichoke and milk thistle have been shown to significantly reduce a number of digestive symptoms including indigestion, bloating, constipation, and diarrhoea. They stimulate the liver to produce bile, therefore supporting fat digestion.

Choline is an essential nutrient for bile production, cholesterol metabolism and liver health. Increasing your choline intake may help with fat digestion, and fatty liver.

- ✓ Supplement the above nutrients just before or with meals to support lipase levels



## Targeted support for reflux

- ✓ Eat less overall, and especially don't eat or drink after 7pm
- ✓ Identify and reduce/remove trigger foods and drinks like spicy food, coffee, alcohol and chocolate
- ✓ Stop smoking, reduce/remove alcohol, and review medications
- ✓ Supplements containing calming, soothing, acid balancing nutrients and botanicals such as slippery elm, licorice, or marshmallow

## Slippery elm

Slippery Elm is effective for reflux, stomach inflammation, ulceration, and constipation. It is a rich source of soluble fibre acting as a prebiotic. The mucilage of slippery elm forms a slippery, viscous coating that soothes irritation in the throat and the lining of the stomach. It also stimulates the secretion of protective mucus.

# Supporting digestion with your lifestyle

## Mindful eating

Eating on the run, snacking and not relaxing before and after eating can reduce the sensation of fullness, making us eat more than we need. It can also reduce the production of digestive juices and enzymes, decreasing our ability to digest food properly. Mindful eating can help us to distinguish between emotion and true physical hunger, and promote optimal digestion and absorption.

- ✓ Keep to regular eating times
- ✓ Take 7 deep breaths before starting to eat
- ✓ Eat slowly and without any distractions
- ✓ Chew food thoroughly (until mushy)
- ✓ Listen to physical hunger cues and stop eating once you feel full
- ✓ Engage your senses by noticing colours, smells, textures and flavours to appreciate your food
- ✓ East sociably away from any distractions
- ✓ For mindful eating practices, try the Headspace app

## Support food breakdown and absorption

Well-digested foods can reduce the burden on the overall system and improve the absorption of nutrients. It can also reduce the risk of bacteria feeding on undigested foods in the small intestine, which can cause excessive gas production, bloating and reflux.

- ✓ Eat less food and chew it properly
- ✓ Avoid drinking too much water with meals as this may dilute the stomach acid, half a glass of water should be fine
- ✓ Soak beans, pulses and nuts before cooking or eating them to reduce physic acid content, as this inhibits absorption of important nutrients
- ✓ Try a digestive enzyme supplement with foods that you know cause a problem

## Fasting

Frequent stimulation of the pancreas and gallbladder via high refined carbohydrate, sugar diets and high alcohol consumption can lead to pancreatitis and gallstones. The conditions both reduce our digestive capacity and increase the risk of further complications. Excessive food intake late in the evening can not only disrupt sleep, but also interferes with rest and repair at night.

- ✓ Limit snacking to give the body some time to digest meals properly and reduce the strain on the pancreas
- ✓ East 2-3 balanced main meals per day within a 8-12 hour window. For example, if you have your first meal at 7am, aim to have your last meal by 7pm (12h window)
- ✓ Leave a gap between your evening meal and going to bed of at least 3 hours, ideally avoid eating after 7pm

# Digestion Supporting Breakfast

This porridge is made using rolled oats – a great source of beta glucans, which are a type of fibre with gut-healing and immune supporting properties.

**Serves:** 1 **Cooking Time:** 6 minutes

## Ingredients

½ cup Rolled oats
(gluten free options available)

½ tsp Slippery elm powder

250ml Coconut milk or a alternative plant-based milk

Toppings: handful of mixed nuts, seeds, and berries

Optional sweetener: 1 tsp local, organic honey or maple syrup

## Method

Mix the slippery elm and the cinnamon into 50ml warm water to form a paste.

Put the rolled oats, coconut milk and slippery elm paste into a pan on a medium heat and gently cook for 5-6 minutes until creamy. You can add more milk or water to make creamier if needed.

Serve in a bowl with your desired toppings.

# Focus: Balance of Gut Bacteria

## Do you have gut issues that started after a trip abroad, an upset stomach, or from taking antibiotics?

- [ ] I experience bloating, flatulence, abdominal pain and loose stools, even diarrhoea
- [ ] My symptoms began after a trip abroad/episode of food poisoning
- [ ] I don't eat a lot of fibre rich foods
- [ ] I have anal itching, thrush, or other fungal infections (e.g. athlete's foot)
- [ ] Tests: Show imbalanced gut bacteria, yeast, parasites, 'SIBO', low or high sIgA, imbalanced SCFAs
- [ ] Diagnosis or family history of: IBS, diarrhoea, food poisoning, parasitic infection, or IBD
- [ ] Medications: I have used antibiotics a lot in the past/present

*Is this you?*

**If you've ticked a lot of symptoms, you might need support for your gut bacteria.**

# Balance of bacteria

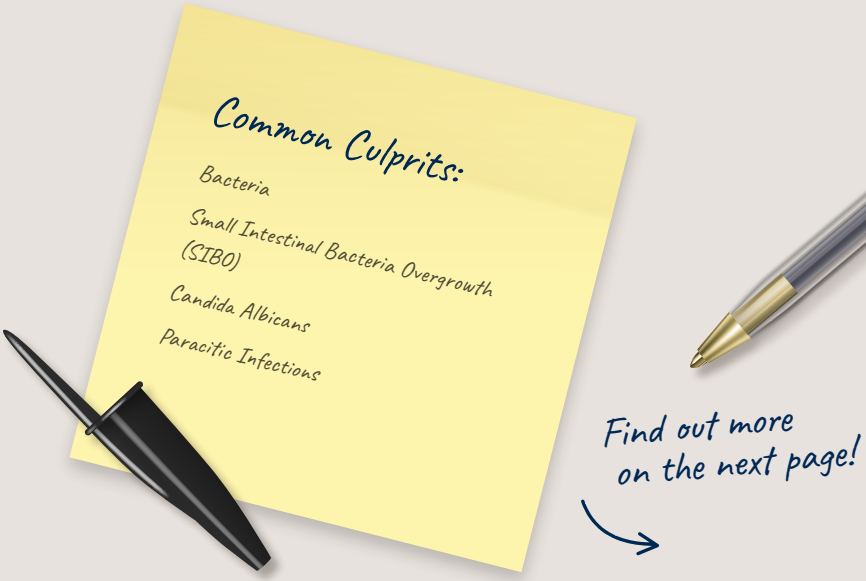
The bacteria in our guts are essential to health. In fact, there are trillions of bacteria living inside us, our '**microbiome**'. We've evolved together with these bacteria, supporting each other in a mutual health relationship. Healthy levels of beneficial bacteria appear to be essential for the effective functioning of many activities, including the immune system,[13] detoxification,[14] cardiovascular health,[15] energy metabolism,[16] psychological wellbeing,[17] hormonal balance,[18] and, of course, digestive function.[34, 18]

Modern lifestyles sometimes don't support healthy, balanced levels of these helpful live bacteria. Different factors can impact their numbers and diversity and cause an imbalance between friendly and unfriendly bacteria, and other microorganisms such as yeast. These include toxins in the environment, poor diet, low fibre intake, medicines like antibiotics, compromised digestion and also stress. It is important to nourish a diverse microbiome, and sometimes when the balance has been significantly disrupted, we can use probiotic and prebiotic foods as well as natural antimicrobials to support digestion, a healthy balance of bacteria and yeast.

# Dysbiosis

Colonisation of pathogenic bacteria and compromised levels of beneficial bacteria can lead to a state called **Dysbiosis** (an imbalance of beneficial vs. pathogenic bacteria) in the gut.[20] Symptoms of dysbiosis include bloating, disrupted bowel movements, abdominal pain, anomalous joint pains, brain fog, food sensitivity, allergies, sinusitis, and inflammation.

Dysbiosis can be triggered by multiple factors, from poor digestion, low stomach acid, prolonged physical or mental stress, low fibre intake, environmental pathogens (food poisoning or exposure to novel food and water when travelling), use of antibiotics, to structural issues with the digestive tract (e.g. strictures or diverticulitis) or a compromised immune system. Dysbiosis has been directly linked with a number of gut disorders like, thrush, IBS, IBD, SIBO, fatigue, and autoimmune conditions.



# Common culprits for Dysbiosis

## Bacteria

Common pathogenic bacteria include Yersinia, Salmonella, pathogenic forms of E.coli, Fusobacterium nucleatum,[21] Proteus mirabilis,[22] Citrobacter, Salmonella[23] and Clostridium difficile.[24] In individuals with very imbalanced intestinal flora, pathogenic bacteria in contaminated food can easily overpower the protective effects of any remaining good bacteria, promoting symptoms of varying severity, from diarrhoea to sepsis.

## Small Intestinal Bacterial Overgrowth (SIBO)

SIBO is the presence of an abnormally high number and/or abnormal type of bacteria in the small intestine, such as Streptococci, Escherichia coli and Klebsiella,[25] which usually can be found in the large intestine. SIBO is often accompanied by wider digestive dysfunctions such as slow motility, colonic dysbiosis, or decreased levels of digestive enzymes.

## Candida albicans

An opportunistic yeast, which, if allowed to overgrow, can contribute to all sorts of problems ranging from IBS-symptoms to brain fog and mental health issues. Whilst we know sugar is an issue, now weknow more about Candida and its behaviour, and the fact that it can evolve under favourable conditions.

Most of us have some amount of Candida growing in our gut, but the numbers are kept in check by a robust immune system.[26] Compromised immunity can lead to candida evolving into the more aggressive mycelial form, hijacking nutrient supplies, and establishing more dominance over the beneficial microbiota.[27, 28, 29]

## Parasitic Infections

Parasitic infections are another major cause of dysbiosis, driven by consumption of contaminated food and water (including undercooked meat and fish, or leafy vegetables), travelling to developing tropical countries, poor hygiene, and regular exposure to small children, animals and hospitals. Commonly identified parasites include Blastocystis hominis,[29] Dientameoba fragilis,[30] Crytosporidium, Giardia, Entamoeba histolytica,[31] and Schistosoma (water-borne flatworms or blood flukes). The symptomatology significantly overlaps with other types of dysbiosis (e.g. fatigue, bloating, brain fog), but abdominal pain, acute or chronic diarrhoea and anal itching are particularly diagnostic of parasites.[32] Skin rashes, such as urticaria (hives),[33] weight loss or difficulty gaining weight, and food sensitivities can also be experienced.

# Using probiotics

If you want to support your **balance of live bacteria** each day, taking a probiotic supplement can be an easy and hugely beneficial addition to your daily regime. But not all probiotic products are equal.

Make sure you look for a product that is:

✓ **Clinically effective**

Human strain bacteria which have been used in different clinical trials will guarantee safety and efficacy.

✓ **Designed and used by experts**

Research is important, but the experience of health practitioners is invaluable. A **reputable** brand will be working with a team of experts to ensure a product is designed having clinical experience in mind.

✓ **Stable**

Most probiotic bacteria are sensitive to acidity, light, and moisture. Choose a product that is stomach acid resistant and guarantees potency until the end of its shelf life.

✓ **Pure**

When supporting gut health, the last thing you want to do is to take a product with allergens in it. Look for a formula that's free of unnecessary additives and allergens.

# Using natural antibiotics

In the world around us, many plants have a natural antibiotic properties, to help protect themselves. We can use this to our advantage though, to help maintain the balance of the microbiome in our gut, especially if our symptoms or a test has indicated an imbalance in bacteria, SIBO, candida overgrowth and parasitic infection. Using plant oils or concentrated extracts, which can be found in supplements rather than dried herbs, is often far more effective.

Having a broad spectrum of botanicals means that the pathogenic microbes are less likely to develop resistance and overall produces better results than when these are used in isolation. Here are some examples of natural antibiotics that could be used to support some of the common culprits of dysbiosis.

## Bacteria

**Clove oil** contains eugenol and tannins which have broad-spectrum activity against pathogenic yeasts and bacteria.

**Grapeseed extract** contains compounds such as resveratrol, tannins and polyphenols, which are antimicrobial and antioxidants.

## SIBO

**Barberry bark** contains a range of plant chemicals, including berberine which is antimicrobial, and also supports immunity, cholesterol balance, and blood sugar regulation.

**Grapeseed oil** - The antimicrobial activity is down to the active ingredients D-Limonene, flavonoids and phenolic compounds.

## Candida

**Olive leaf extract** is particularly good for fungal infection. Also, mildly anti-inflammatory. Olive leaf extract is naturally found in coconut oil and dairy products.

**Caprylic Acid** is Particularly good for fungal infections. Also, mildly anti-inflammatory. Naturally found in coconut oil and dairy products.

## Parasitic Infection

**Wormwood Oil** contains components a- and b- thujone, artemisinins, and a-santonin that provides antimicrobial and antiparasitic effects. It also contains Chamazulene, which provides antioxidant and anti-inflammatory effects.

## Other examples include:

### Thyme Oil

Contains thymol, which has potent antibacterial activity and is also useful to support respiratory tract infections.

### Ginger

Gingerol has got a broad spectrum of antibacterial properties and promotes digestion and motility.

### Oregano

Contains carvacrol which is antifungal and antibacterial. Good for a range of pathogens, including respiratory infections and Candida.

### Garlic

Antiviral, antibacterial, and anti-fungal. Garlic does not exert a negative effect on beneficial probiotic bacteria.

# Supporting balance of gut bacteria with nutrition

## Include probiotic foods

Our microflora is dynamic and its numbers can be affected by diet, stress and multiple environmental factors. Fermented foods naturally contain probiotic bacteria which help with maintaining the balance and keep us 'topped up' with friendly bacteria.

- ✓ Try eating fermented foods once a day: sauerkraut, kimchi, kefir, kombucha, tofu, and tempeh
- ✓ Brands to choose from include: Rhythm Health, Equinox, Biomel, Taifun, or Hurly Burly Foods
- ✓ Try making your own! There are plenty of recipes online, search 'The Doctor's Kitchen' or 'The Gut Doctor'

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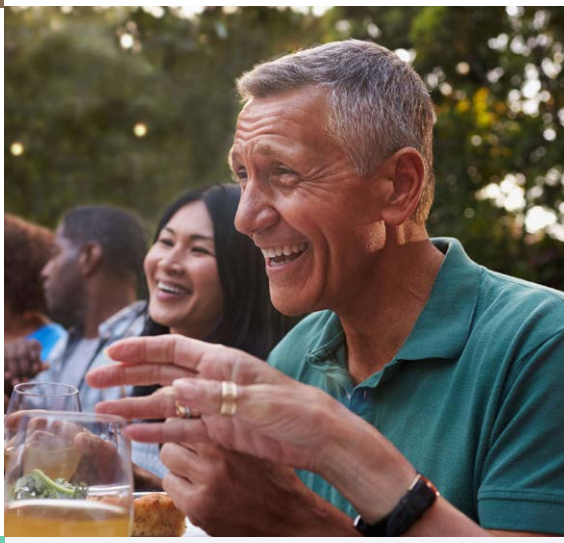
## Increase prebiotic foods

The beneficial bacteria in our get cannot function effectively without the fuel in the form of fibre, or prebiotics. Prebiotic fibre acts as food substrates for the beneficial bacteria and increased microflora diversity correlates with a good fibre intake. Parasitic infection can negatively impair the microbiome, so natural antimicrobials alongside prebiotic fuel is specially important in cases of infection.

- ✓ Prebiotic fibre: e.g. chicory, Jerusalem artichoke, leeks, onions, garlic, cooked and cooled potatoes
- ✓ Aim for at least 30g fibre per day and increase diversity by including 30 different plant-based foods per week
- ✓ Reduce yeast containing foods in cases of fungal overgrowth: some breads and baked products, processed and cured meats, aged cheeses and dried fruit
- ✓ If you have an infection, include natural antimicrobials and antifungals: coconut oil, garlic, oregano, sage, coriander, rosemary, cinnamon and cloves



## Balance blood sugar

High levels of sugar circulating in the blood can encourage Candida to migrate to the gut wall, making it more challenging to eradicate overgrowth. Focus on balancing blood sugar to reduce fungal overgrowth and to address any issues with energy.

- ✓ Reduce sugar intake by reducing white carbohydrates, sweet treats, fizzy drinks, alcohol and dried fruits
- ✓ Include 30g fibre per day as this helps to slow the absorption of glucose into the blood stream. Focus on soluble fibre sources including green bananas, cooked and cooled potatoes, oats, beans and psyllium
- ✓ Include a portion of good quality protein per meal, as this also helps to stabilise your blood sugar

# Supporting balance of gut bacteria with your lifestyle

## Limit antibiotic use

Antibiotic use, especially after taking multiple courses, can significantly impact the abundance of bacteria. Antibiotics are designed to eradicate harmful bacteria; however, unfortunately they do not distinguish between the 'good' and the 'bad'. Research demonstrates significantly reduced diversity of bacteria in individuals with a history of antibiotic use, which can make room for more harmful species to thrive.

- ✓ Ensure your diet is full of natural antimicrobials to reduce the likelihood of developing an infection. Foods to include: garlic, oregano, sage, coriander, rosemary, cinnamon, and clove
- ✓ For infections, increase your intake in vitamins A, C, D, and zinc to optimise your immune response
- ✓ If antibiotics are needed, ensure that you supplement with a good quality, high-strength probiotic (2-4 hours away from antibiotics)

## Spend time in nature

Exposure to nature is associated with increased microbial diversity, as being surrounded by diverse plant life means we expose ourselves to various microbes. Individuals who spend more time in urban areas can be exposed to potentially harmful bacteria.

- ✓ Spend more time gardening in your own garden, at an allotment, or by purchasing house plants
- ✓ Plan a regular walk in a nearby forest
- ✓ Prioritise some time each day for at least a 15 minute walk in a local park
- ✓ For garden owners, invest in a bird feeder

## Improve Sleep

Sleep gives the cells in our digestive system time to repair as well as helping to regulate our hunger and satiety hormones. Our gut microbes respond to our circadian rhythm and can be negatively influenced by irregularities e.g. poor sleep. Lack of sleep can also affect our food choices if we are tired, as we are more likely to opt for quick energy foods high in sugar and fat, which in turn negatively impacts our gut bacteria.

- ✓ Keep to a regular sleep-wake routine
- ✓ Increase daytime light exposure e.g. use a light box upon waking e.g. Lumie
- ✓ Reduce evening blue light exposure e.g. night-mode on electronic devices, blue light blocking glasses and turn off overhead lights
- ✓ Sleep in dark rooms/wear an eye mask
- ✓ Enhance awareness of sleep quality e.g. Oura ring sleep tracker, Sleep Cycle app
- ✓ Read 'Why we Sleep' by Matthew Walker and 'Sleep Smarter' by Shawn Stevenson
- ✓ Avoid caffeine after 12pm

## Reduce toxic load

High exposure or accumulation of toxins can contribute to chronic inflammation which can impact the integrity of the gut lining and mucosa. Gut bacteria can be easily disturbed by exposure to environmental toxins, contributing to a range of chronic disease such as obesity, type 2 diabetes, and mental health disorders.

- ✓ If you smoke, try Allen Carr's book 'The Easy Way to Stop Smoking' and hypnotherapy
- ✓ Choose organic food when possible
- ✓ Purchase a top-quality water filter e.g. Berkey
- ✓ Transition to using natural cosmetics and cleaning products
- ✓ See a GP for medication review if on multiple medications
- ✓ Reduce alcohol and caffeine

EASY SIDE

# Good Bacteria Supporting Sauerkraut

The fermentation process used to make Sauerkraut produces lots of lactic acid bacteria, which is great for keeping your gut in good shape. This process takes time, and it requires some daily attention, but once finished you'll have a delicious, tangy sauerkraut to add to your meals.

**Makes:** 3 Jars **Prep Time:** 20 minutes Vegan

## Ingredients

1 Red cabbage
3 Carrots, grated
4 Garlic cloves, chopped
1.5 tsp Sea Salt

## Method

Finely grate/chop the cabbage (you could use a mandolin) and add to a large mixing bowl along with the salt.

Using clean hands, massage the salt into the cabbage until it starts softening and releasing water. This can take 5-10 minutes, so be patient!

Add in the carrots and garlic and continue to massage for another 5 minutes until all the ingredients have combined and there is liquid filling around 1/3 of the bowl. You may want to taste test here and add more garlic and/or salt if you prefer.

Decant into sterilised jars and press down firmly to pack using the back of a spoon or rolling pin. There should be enough liquid from massaging that rises up and covers the vegetables. If there isn't, put a small amount of filtered water in until the cabbage is just covered.

Put the lids on and keep the jars in a warm environment – do not put in the fridge whilst they are fermenting as this will delay the process.

Check on your sauerkraut daily, each time, pressing down the vegetables so the liquid continues to cover them.

The length of time your Sauerkraut takes to be ready can vary, but we advise leaving for around 10 days for a super tangy taste. You can taste test as you go and stop fermenting sooner if you wish. Once it's ready, keep in the fridge. This will keep for up to 6 months!

# Focus: Gut Integrity

## Do you react to certain foods like those containing dairy and gluten, perhaps with pain, discomfort or wider symptoms?

- [ ] I react to some foods (wheat, gluten, dairy etc.) with a rash, headache, diarrhoea, palpitations
- [ ] I eat a fair amount of food that contains wheat and gluten
- [ ] I feel discomfort when eating certain foods like cereals, gluten, dairy, eggs etc
- [ ] I feel discomfort when eating wholegrain or 'bitty' foods like nuts
- [ ] I have lost weight or have difficulty maintaining weight
- [ ] Tests: Show blood in stools, high EPX/lactoferrin/ calprotectin/zonulin/, low butyrate or imbalanced SCFAs
- [ ] Diagnosis or family history of: Coeliac, IBD, gastritis, diverticulitis, ulceration, gut surgery/resection, autoimmunity, liver disease
- [ ] Medications: I have used NSAIDs and/or antibiotics a lot in the past/present

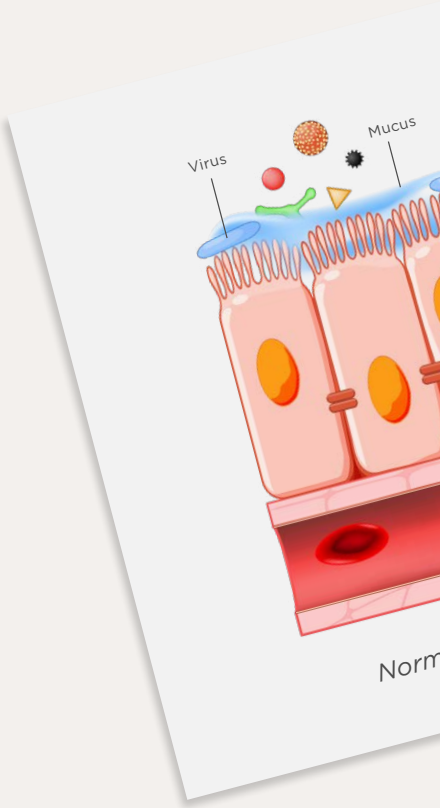
*Is this you?*

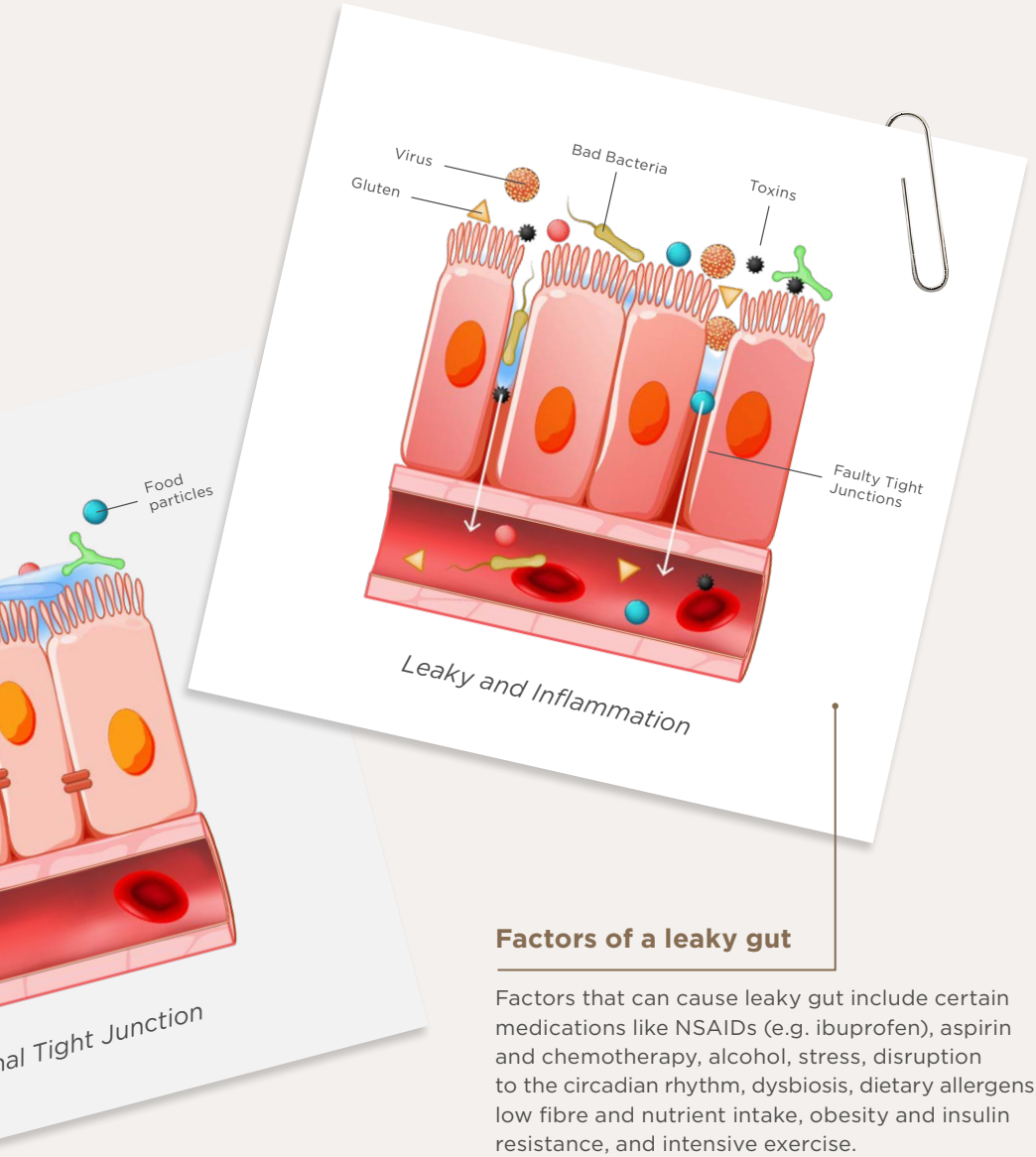
**If you've ticked a lot of symptoms, you might need support for your gut integrity.**

# Leaky gut syndrome

Our gut lining is made up of multiple protective layers which guard us from **toxins** and **pathogens**. It is made up of thin mucosal tissue which is vital for nutrient absorption and colonisation of friendly bacteria. The gut mucosa consists of epithelial cells that facilitate nutrient exchange and layers of connective tissue (composed of collagen and other components) and muscle fibres. About 70-80% of the immune system is based in the gut lining, so gut integrity is key for robust immunity. Importantly, our gut lining is constantly worn out and needs to be continually replaced. This process is reliant on different nutrients such as zinc, vitamin A or C. Poor gut integrity can lead to maldigestion and food particles and '**leaky gut**', or increased gut permeability where toxins or undigested foods escape into the bloodstream.

The tight junctions between intestinal epithelial cells that line the digestive tract are essential to the exchange of nutrients at the gut lining level, and ensuring that no toxins or microorganisms cross the barrier and enter the bloodstream. 'Leaky gut' happens when the gut lining becomes damaged and the tight junctions are open for a prolonged period of time. This leads to a loss of the protective barrier, increased immune activation, as well as toxins, bacteria, or undigested foods escaping into the bloodstream.






## Factors of a leaky gut

Factors that can cause leaky gut include certain medications like NSAIDs (e.g. ibuprofen), aspirin and chemotherapy, alcohol, stress, disruption to the circadian rhythm, dysbiosis, dietary allergens, low fibre and nutrient intake, obesity and insulin resistance, and intensive exercise.

Leaky gut can lead to both localised dysfunction (e.g. inflammatory bowel disease - IBD), as well as systemic effects, as seen in autoimmune conditions, allergies, nervous system disorders, and major chronic diseases, including diabetes, obesity, and heart disease.

# Supporting gut integrity with nutrition

## Vitamins A, C, D

Vitamins A, C and D support the immune response and protect the integrity of the mucosal epithelium. Vitamin C is also a key cofactor for collagen synthesis, and tissue repair. Vitamin D deficiency is common so it is best to check your blood levels and supplement.

## Zinc & L-Glutamine

Zinc promotes immunity and reduces the risk of infection, as well as maintaining gut barrier integrity.

L-Glutamine inhibits inflammation and oxidative stress linked to tight junction opening. It is used as fuel by the cells in the digestive tract, supporting the healing of damaged mucosal tissue.

## N-acetyl Glucosamine (NAG) & Butyric Acid

NAG can support connective tissues in the gastrointestinal tract, as well as promoting the growth of mucosal tissue, being an integral part of cell membranes and surface structure.

Butyric acid provides 70% of energy for the epithelial mucosa cells and colonocytes and is essential in maintaining the integrity of the gastrointestinal wall.

If you'd like to have a chat about your IBS symptoms and get advice on how to naturally support them, call our expert nutrition team on **0121 344 3727** or email **clinicalnutrition@biocare.co.uk**

## Increase protein and nucleotide intake

Protein is a key nutrient for supporting tissue repair, as it is rich in the healing amino acids like L-Glutamine and also nucleotides.

Nucleotides are the building blocks of our cells, and they are key in new tissue production and intestinal integrity. We can make nucleotides ourselves via the process of methylation as well as getting them through food. However, our methylation capacity and dietary nucleotide intake is often low, or inadequate in states of disease.

- ✓ Bone broths are a fantastic source of micronutrients, collagen and amino acids needed for healthy gut lining. Make your own or try Planet Paleo, Borough Broth or Biomed
- ✓ Whey protein, plant protein and colostrum can also be added to foods
- ✓ Increase intake of folate and B12 rich foods (e.g. spinach, kale, pulses, organic eggs, and meat)
- ✓ Nucleotide sources: Organic organ meats, prawns, mushrooms, lamb, and anchovies

## Follow an anti-inflammatory diet

Food reactivity can cause inflammation in the gut lining and drive a perpetual cycle of intestinal permeability. A paleo/autoimmune diet which focuses on anti-inflammatory and hypoallergenic foods can help to reduce inflammation and allow the gut lining the time and the nutrients required to repair.

- ✓ Increase antioxidant rich foods, especially those rich in vitamin A (squash, pumpkin, kale, organic liver), vitamin C (papaya, peppers, broccoli, oranges, spinach, parsley, kiwi), vitamin D (oily fish, mushrooms, and sun exposure), and zinc (turkey, oysters, oats, sesame and pumpkin seeds)
- ✓ Increase omega-3 intake (e.g. wild salmon, herring, mackerel), ground flaxseeds/oil, walnuts, hemp
- ✓ Books: ‘The Wahls Protocol’ by Terry Wahls, ‘The Autoimmune Solution’ by Amy Myers and wholefood cookery books by Amelia Freer, Hemsley & Hemsley, and Dr Rupy Aujla

# Gluten & dairy elimination

If you have ever considered going **gluten** and, or **dairy free**, and wondered what this may do to support your gut, this may be for you.

When eating gluten or dairy, the tight junctions in the gut widen and increase the gut permeability. This for some people has little noticeable effect as they can efficiently return this barrier to normal after eating, however, for others it can be more of an issue. This '**leaky gut**' allows the external environment to interact with our internal environment, stimulating our immune system, which can lead to wider inflammation.

People with IBS may notice that eating foods containing gluten and dairy worsen gut symptoms as well as contributing to feelings of fatigue and brain fog. Removal of these foods can therefore be beneficial for symptom relief, however the process of elimination can be tricky as gluten and dairy appear in many common foods.

We suggest starting slowly, making simple switches to begin with, following some of the **tips** we've outlined.

## Getting started:

**Keep a symptom diary**

Keeping a symptom diary can help to identify foods that trigger your symptoms, and therefore which you may benefit from removing. Note down in a notepad or on your phone when you react to foods and see if you notice a pattern.

**Meal planning**

It might take a little more time, but planning your meals in advance can be so effective to help you reduce your intake of dairy and gluten. Pick a day to plan your weekly meals and then shop accordingly to ensure you have the ingredients ready.

**Batch cooking**

Batch cooking is a great option for those days when you are tired or unmotivated to cook, making you more likely to reach for convenience foods that contain gluten and dairy. Cook a large meal e.g. bean stew, vegetable curry, that you can then freeze and easily defrost for dinner as and when.

## Dairy & Gluten alternatives:

Whilst you should still aim to get variety in your diet, and not rely only on dairy and gluten free alternatives, they can be convenient when needed.

### Bread/Wraps

Seeded breads, corn tortillas, chickpea wraps, homemade gluten free bread.

### Flour

Buckwheat, almond and coconut flour make great swaps for home baking.

## Ice cream

Sorbets or coconut cream are refreshing and dairy-free.

## Milk, butter & yogurt

There are plenty of nut and seed milks available nowadays to reduce your dairy milk consumption. For yoghurt alternatives, choose coconut or oat yoghurts. Olive oil, ghee and coconut oil work well as butter alternatives.

## Chocolate

Try plant-based or raw chocolate!

*Options are available in most supermarkets!*

## Pasta

Pea, chickpea and lentil pastas are available, but gluten-free options to pasta also include rice, quinoa and rice noodles.

## Cheese

Nut cheeses work well in place of cheese, and nutritional yeast can be used in place of parmesan.

# Supporting gut integrity with your lifestyle

## Moderate exercise

We all know that physical activity can have a lot of health benefits, but how does it affect our gut health? Exercise can **positively alter gut microbiota composition** by enhancing the number of beneficial bacteria, improving general health status and preventing various diseases.[36]

Mild to moderate training can reduce inflammation and intestinal permeability[37], it can be protective against gastrointestinal diseases such as colon cancer, diverticulosis, or constipation.[38] However, strenuous exercise can lead to leaky gut and inflammation due to oxidative stress and reduced oxygen supply to the gut.[39, 40]

## How do you exercise with gut-related conditions?

If you suffer with intestinal permeability or a chronic gastrointestinal condition, running a marathon might not be the best option. Instead, **yoga**, **stretching**, **walking**, and **light aerobic physical activity**, such as swimming or mountaineering could be an effective way to alleviate IBS symptoms.[41]

**Yoga**, as a 'mind-body-breath' discipline[42], has a positive effect on our nervous system due to the gut-brain axis connection.[43] To relieve abdominal pain, you may consider postures that target the lower abdomen in order to enhance circulation in and around the intestines.[43]


# Yoga poses for IBS

Introducing some or all of these poses into your daily routine can be a really effective way to help support gut symptoms.

**Get started with 3 poses per day and take 10 deep breaths in each position.**

# Gut Healing Broth

Bone broth is great for your digestion, gut and joint health! It is an excellent source of collagen which can promote gut lining repair and support inflammatory bowel conditions!

**Serves:** 4-5 **Prep Time:** 20 minutes

**Cooking Time:** 6-5 hours in a pot, 3-5 hours in a instant pot, 12 hours in a slowcooker*

## Ingredients

7-9 Organic chicken carcass (can be from leftover roasts)

4 Carrots, medium

1 Parsnip

1 Onion, chopped

1 Celery stalk

2 Garlic cloves

2 tbsp Apple cider vinegar

Fresh herbs: choice or mixture of Dill, Parsley and Lovage

Spices: choice or mixture of Turmeric, Caraway seeds, Thyme, Himalayan salt, Cayenne pepper and Ginger

For vegan option use Shitake Mushrooms and dried Kombu Seaweed

## Method

Place the chicken carcass (or Shiitake mushroom and kombu seaweeds if vegan) in a large pot, slow cooker or instant pot.

Add the rest of the ingredients and cover with water.

Cooking time depends on the pot used (see cooking time). Simmer for desired time.

Once done, discard solids and the bone broth is ready to eat!

# Focus: Gut Motility

## Do you have issues with regular bowel movements? Do you sometimes feel the urgency to 'go to the toilet', or perhaps pass a bowel movement less often than once a day?

*Is this you?*

- [ ] My bowel habits can be irregular with diarrhoea, constipation, or a mixture
- [ ] I sometimes/frequently feel the urgency to 'go' to the toilet to pass a bowel movement
- [ ] I feel sick, bloated, or overfull for a long time after eating
- [ ] I am/have been very stressed with possible anxiety or depression
- [ ] I take medications for my mood or to calm me down e.g SSRIs
- [ ] Diagnosis or family history of one/some of: IBS/IBD, constipation, incontinence, diarrhoea, diverticulitis
- [ ] Tests from doctor/practitioner show one/some of imbalance of gut microbiome/leaky gut

**If you've ticked a lot of symptoms, you might need support for your gut motility.**

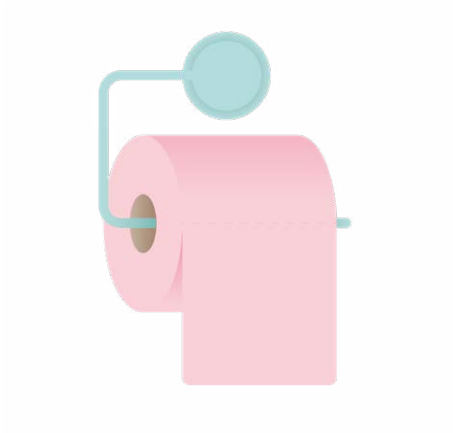
# Gut motility

**Motility** is a complex process controlled by the central nervous system alongside local regulation via the enteric nervous system, which communicates with the parasympathetic and sympathetic nervous systems. Motility requires the coordinated action of the muscle within the entire digestive tract to ensure adequate propulsion, and mixing of both food and fluid.

Eating triggers the **parasympathetic nervous system** slowing down our heart rate and respiration. The parasympathetic response known as ''rest and digest'' is generally stimulatory of motility initiating muscle contractions that transport foods through the digestive tract known as peristalsis. Muscular movements in the gut result in appropriate propulsion and mixing of food and fluids for efficient digestion, absorption, detoxification, bacterial fermentation, and bowel function. The major component of the parasympathetic nervous system is the **vagus nerve**, which promotes gastric emptying, regulates muscle activity and motility.[48] Motility is also highly **responsive** in changes to gut contents and conditions, so may be affected by meal composition, timing, bacterial & chemical composition, pH, neurotransmitter function, hormones, inflammation etc.

As motility is regulated by our nervous system, different neurotransmitters (e.g. serotonin) are also involved and stress can significantly affect our bowel regularity and motility. In addition, **fibre** is important for bulking and softening stools, and specific types of fibre act as 'prebiotics' feeding our beneficial bacteria which are crucial for proper digestion. It's likely that you're not getting enough fibre.

The movement of food and fluid through the digestive tract is essential to digestion, absorption, and excretion. Disrupted motility and consequent slowing down or speeding up of this process can contribute to a number of uncomfortable symptoms and will also have wider implications such as **nutrient malabsorption** and **impaired detoxification**. Ensuring proper hydration, mindful eating, decreasing stress, eating more fibre and incorporating some physical activity can support your gut motility.



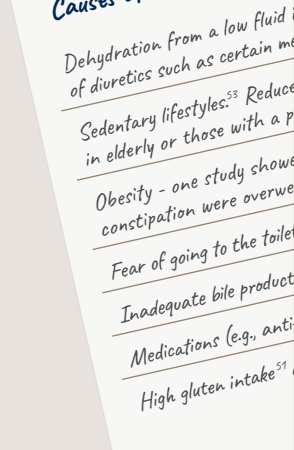
> Almost everything will work again if you unplug it for a few minutes.
>
> Including you.

Anne Lamott

# Constipation

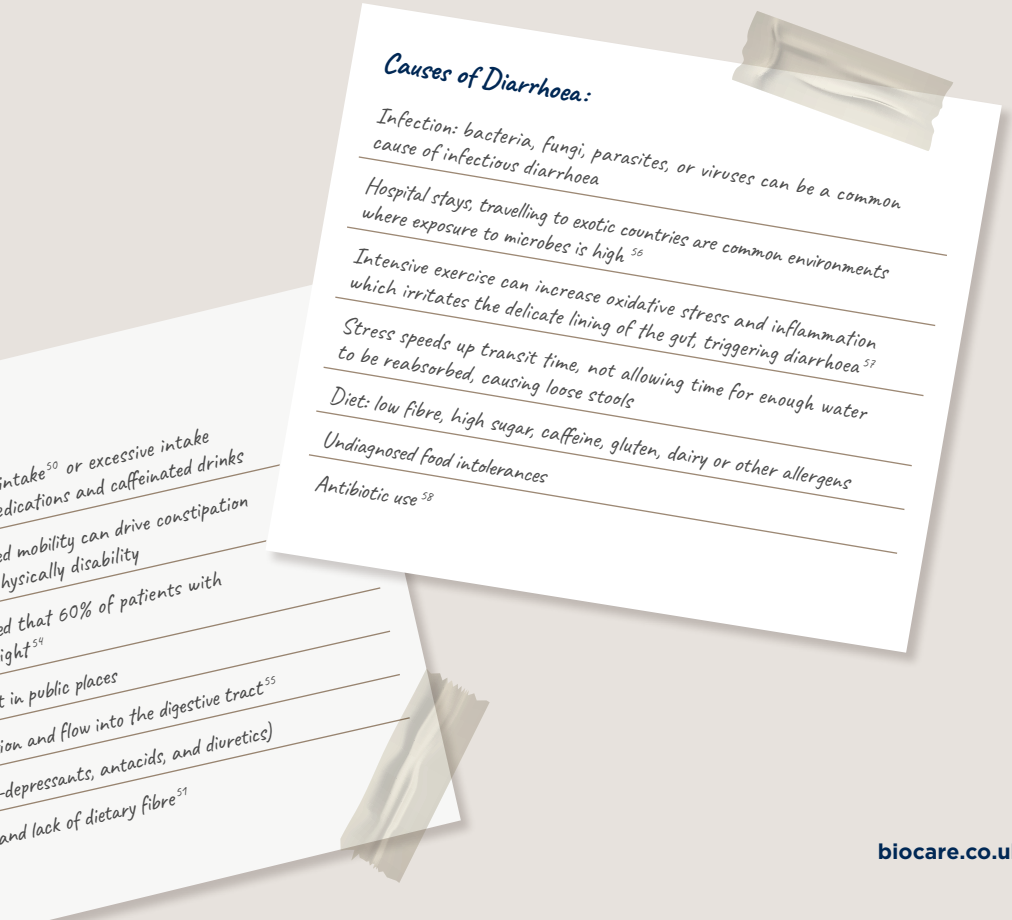
Constipation is a common issue that affects up to **27% of the general population**, more commonly a problem for women and the elderly.[35] Constipation is characterised by: reduced bowel movements (less than three per week), stools that are difficult to pass or have a hard consistency, a sense of incomplete evacuation, abdominal bloating and flatulence.[49] Other symptoms can include fatigue, lethargy, abdominal pain, skin conditions, headaches, and haemorrhoids.

Unfortunately too many people rely on **laxatives** to relieve constipation. Laxatives work by causing the muscles of the digestive system to contract, increasing water absorption or bulking the stool so waste can move quickly through the colon. However, this often interferes with kidney function and can cause a large amount of fluid loss and ultimately weaken the muscles that are needed for bowel movements. Additionally, the body rebounds after taking laxatives by holding on to all of the available water it can get, which can lead to water retention and/or bloating. Fortunately, **constipation is often preventable**. There are many **natural relief remedies** and **lifestyle changes** available to help improve bowel function.



# Diarrhoea

Diarrhoea can be a bit of a taboo subject, one that isn't really talked about. It can affect not only our health but our self-confidence, interfering with everyday life and on some occasions our social life. Diarrhoea is often a symptom of pre-existing health issues such as irritable bowel syndrome,[53] which can be addressed in different ways. By definition, diarrhoea refers to urgent, frequent, watery bowel movements. Usually after such disruption in the digestive process, the integrity of our gut and levels of good bacteria begin to reduce.



# Supporting gut motility with nutrition

## Time restricted eating

Between meals, when our stomach and small intestine are empty, a 'housekeeping' effect happens, whereby these organs essentially clean themselves. It's known as the Migrating Motor Complex (MMC), and it helps to prevent growth of unwanted bacteria and push any remaining matter through the digestive tract. This process can only happen when we are not eating. This means that if we are constantly snacking, it doesn't get the chance to do the essential housekeeping role. So, we should be aiming to leave at least 3 hours between meals to allow this essential process to happen.

- ✓ Try to have 2-3 main meals that combine protein, fats and carbohydrates to keep you satisfied and prevent snacking
- ✓ Eat within an 8–12-hour window. For example, if you have your first meal at 7am, aim to have your last meal by 7pm (12h window)
- ✓ Focusing on balancing blood sugar can help to reduce food cravings so you are less likely to snack

## Optimise hydration

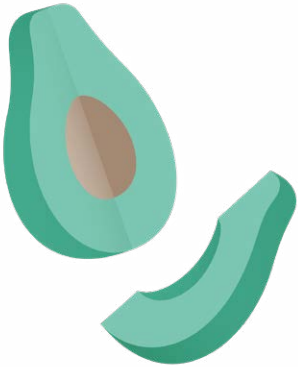
Hydrating is important in both fast and slow motility. In cases of diarrhoea, especially if it's chronic, it's important to increase electrolyte intake as these can be lost through loose stools. In cases of constipation, adequate hydration helps to soften the stool.

- ✓ A general aim is to have 1.5-2 litres of water daily to reach optimal hydration
- ✓ Coconut water, bananas, avocados, and green leafy vegetables are good sources of electrolytes
- ✓ Choosing rock or himalayan salt to add to foods can offer more minerals compared to table salt
- ✓ Electrolyte supplementation may be needed for diarrhoea
- ✓ Try teas containing soothing herbs such as chamomile, mint, fennel, and ginger

## Increase fats and fibre

Increasing your fibre intake can help with both slow and fast motility. This is because fibre can help to bulk up stools and slow transit time. Insoluble fibre is not digested, so it can help to trigger peristalsis and encourage movement of food through the intestines, acting as a natural laxative. Healthy fats can also help to stimulate the large intestine, encouraging motility and healthy bowel movements.

- ✓ Kiwi fruits and ground flaxseed can be good foods to introduce regularly to aid with bowel movements and reduce constipation
- ✓ Include healthy fats such as coconut oil, extra virgin olive oil, avocados, oily fish (salmon, mackerel etc.), nuts and seeds
- ✓ Make sure you have fibre which each meal, focusing on wholegrain, legumes and whole fruit and vegetables



## Remove trigger foods or common allergens

Motility issues can be triggered or worsened by food intolerances or sensitivities. Lactose may cause constipation and/or diarrhoea in people with lactose intolerance. By removing possible trigger foods, it gives the gut time to repair and calm any irritation that can contribute to symptoms. This is best done alongside a professional such as a Nutritional Therapist to make sure you continue to eat a good variety of foods, despite the restrictions.

- ✓ It can be useful to try an elimination diet for 4-6 weeks to remove common allergens or foods you feel might trigger symptoms
- ✓ Dairy and gluten can be common triggers for constipation
- ✓ Keep a food diary to pinpoint what may have triggered constipation or diarrhoea
- ✓ Reduce your intake of processed foods
- ✓ High sugar/fructose, caffeine, alcohol and dairy can be common triggers

# Supporting gut motility with nutrition

## Prebiotic Fibre

Prebiotics such as FOS, GOS, inullin and psyllium are great forms of dietary fibre to help bulk up and soften the stool to improve both constipation and diarrhoea. Prebiotics also feed the beneficial bacteria, supporting overall digestion.

## Marshmallow

Marshmallow is a smooth, slippery herb which can help to soothe and protect irritated intestinal mucosa which may occur in cases of diarrhoea and constipation.

## Prune

Prunes are particularly rich in insoluble fibre and sorbitol which help to improve stool frequency and consistency. Prunes can be especially helpful for constipation and slow motility.

## Pectin

Apple pectin forms a gel when exposed to water which allows it to work as an anti-diarrhoeal agent by slowing faecal transit time and helping solidify stools. It can also improve nutrient absorption through its ability to slow transit time, especially in cases of diarrhoea.

## Probiotic bacteria

Lactobacillus and bifidobacterium strains of bacteria have been found to reduce both diarrhoea and constipation, potentially through their action on the gut microbiome and the nervous system (helping to reduce feelings of anxiety and neurotransmitter production.

## Magnesium

Magnesium, especially in the citrate form, can be used as a natural laxative in cases of constipation as it helps to soften the stool by drawing water into the intestines. If bowel issues are triggered by stress, magnesium, particularly as taurate or bisglycinate, can help to calm the nervous system.

## 5 HTP

In some cases of constipation, 5HTP can help with serotonin production which is important for peristalsis and motility. It is more likely to be beneficial for people who also struggle with depression and insomnia.

**If you'd like to have a chat about your IBS symptoms, call our expert nutrition team on: 0121 344 3727 or email: clinicalnutrition@biocare.co.uk**

# Supporting gut motility with your lifestyle

## Movement

Lack of movement can contribute to weaker gut contractions and can increase the time that food sits in the intestines, causing hard, dry stools that are more difficult to pass. In contrast, more intense or long periods of exercise can cause diarrhoea or nausea.

- ✓ Walking, yoga, and swimming are all great forms of gentle movement that can stimulate digestion
- ✓ Walking after a meal can be beneficial but avoid any intense exercise for at least one hour after a main meal
- ✓ Abdominal massage with lavender oil (diluted) can reduce stress, soothe the gut, and encourage healthy motility

## Vagus nerve stimulation

The vagus nerve carries information and signals between the brain and the digestive system. Its functions in digestion include signalling muscles, such as those in the stomach, to contract and encourage food to be moved through the intestines. Stress can inhibit some of the signals, therefore disrupting motility and general digestion.

- ✓ Singing, humming or gargling help to activate vocal cords, and in turn the vagus nerve
- ✓ Focusing on your breath can also help to stimulate the vagus nerve and promote relaxation. Belly breathing, or focusing on deep, long exhales can be beneficial
- ✓ Try cold water exposure through cold showers or even wild swimming

# Motility supporting Chia Seed Pudding

FAVOURITE!

This chia pudding is packed full of prebiotic fibre and probiotics to help support gut motility! You can leave in the fridge overnight, or, if you prefer a tarter flavour, leave out to enable the probiotics in the kefir to continue fermenting overnight.

**Makes:** 1 **Prep Time:** 10 minutes

Vegan

## Ingredients

1.5 tbsp Chia seeds

3 Pitted medjool dates

Large handful of blueberries

100ml Plant-based milk

50ml Kefir

Toppings: 2 chopped pitted medjool dates, 4 crushed walnuts, and 1 tsp sunflower seeds

## Method

Put the kefir, dates, blueberries and plant-based milk into a blender and blend.

Measure the chia seeds into a bowl and mix with the blended ingredients and put in the fridge overnight.

Take out and stir. Add a splash more milk if you want a smoother consistency.

Add your toppings and enjoy!

## We hope that you've found this Good Gut Guide useful and insightful, but to help you continue your journey to great gut health, we've compiled a list of useful information and resources for you.

**Cookbooks:**

'Wheat Belly Cookbook' by William Davis

'The Gut-loving Cookbook' by Lisa Macfarlane

'The Gut Feeling' by Naomi Devlin

'The Art of Eating Well' by Hemsley and Hemsley

'Eat. Nourish. Glow.' by Amelia Freer

Veg Recipes: 'The Happy Pear' by David and Stephen Flynn

'Fermentation: River Cottage Handbook No.18' by Rachel De Thample

**Books on Gut Health:**

'Gut: The Inside Story of Our Body's Most Under-Rated Organ' by Giulia Enders

'I Contain Multitudes, The Microbes Within Us and, A Grander View of Life' by Ed Young

**Apps:**

Headspace for everyday mindfulness and meditation

Feel Better by Deliciously Ella for recipes, nutrition and more

**Contact us:**

For more help, get in touch with our expert Clinical Nutrition team on **0121 344 3727** or email **clinicalnutrition@biocare.co.uk**

**www.biocare.co.uk**

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