Small Intestinal Bacterial Overgrowth (SIBO)

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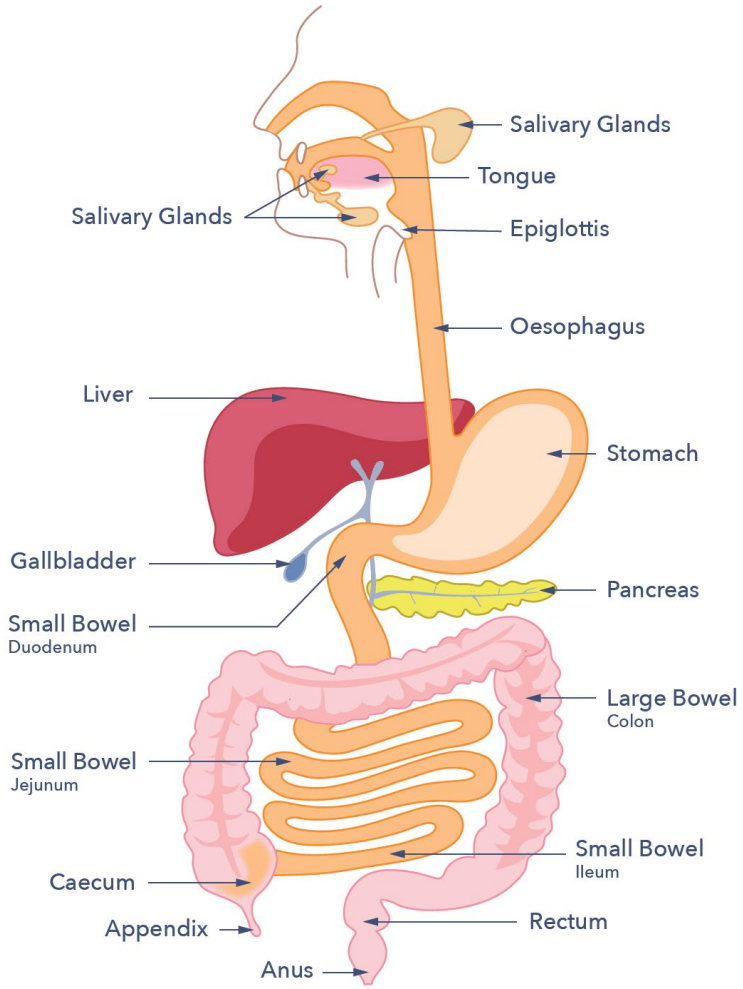
Patient Information Forum

Guts UK is the charity for the digestive system. Funding research to fight diseases of the gut, liver and pancreas.

THE DIGESTIVE SYSTEM

The digestive system, or gut, runs from the mouth to the anus. It includes the food pipe (oesophagus), stomach, the small and large bowel (intestines) and several accessory organs. The role of the digestive system is to turn food and liquid into the building blocks that the body needs to function effectively. See the image of the digestive system below.



OVERVIEW

THIS FACTSHEET IS ABOUT SMALL INTESTINAL BACTERIAL OVERGROWTH (SIBO).

This factsheet helps to explain the symptoms and causes of small intestinal bacterial overgrowth (SIBO). This will help to identify when a problem exists, needing your doctor to investigate. This information also describes which treatments are available to help reduce any symptoms.

Contents

The large bowel is the home to most of the bacteria in the digestive tract. The small intestine, also called the small bowel, holds fewer bacteria. The small bowel is further up the digestive tract than the large bowel. Surgery, or a disease, can change the small bowel's structure. It can also change how quickly gut contents move through. This can let more bacteria grow than normal. SIBO can affect how well food is absorbed into the body. It can also result in unpleasant symptoms.

CAUSES

WHAT CAUSES SIBO?

SIBO happens when the anatomy of the digestive tract changes. This allows bacteria to move easily from the large bowel into the small bowel. This can also happen if the bacteria don't move through the small bowel as they should. So, they may avoid normal protective mechanisms or increase in number. This is often caused by the following surgery:

- **A right hemicolectomy.** The right-hand side of the large bowel has been removed by surgery. This may have been done to treat cancer or inflammatory bowel disease.
- **Roux-en-Y gastrojejunostomy.** This is when the stomach is made smaller, and part of the upper small bowel is bypassed. It is often done for surgical weight management treatment.
- **Surgery** for ulcers or gastric cancer.

- **Pancreas surgery**. This is treatment for pancreatic cancer or chronic pancreatitis.
- **Oesophagectomy surgery** for oesophageal cancer.

Diagnosed conditions where SIBO is more likely to be experienced:

- Pancreatic exocrine insufficiency (PEI).
- Diabetes.
- Scleroderma.
- Diverticular disease in the small bowel.
- Adhesions caused by scar tissue in the abdomen (belly) or bowel obstruction.
- Neurological conditions such as Parkinson's disease.
- Liver disease
- Crohn's disease or ulcerative colitis.
- Coeliac disease.

SYMPTOMS

WHAT ARE THE USUAL SYMPTOMS?

The symptoms of SIBO are much like those of other digestive conditions. They can be vague:

- Belly (abdominal) pain.
- Bloating and/or distention (swelling of the belly).
- Diarrhoea.
- Your poo could be pale, fatty or greasy. Doctors call this symptom steatorrhoea.
- Weight loss.
- Deficiencies in vitamins or minerals, like iron, vitamin B12, or calcium.

DIAGNOSIS

HOW IS SIBO DIAGNOSED?

The doctor will want to check your medical history for any previous surgeries or conditions that could potentially cause SIBO.

A sample taken directly from the small bowel. The best way to diagnose SIBO is to insert a thin, flexible tube into the top of the bowel. The tube enters through the mouth until it reaches the middle of the

small bowel (the jejunum) where a sample is taken. This sample is then measured to check the level of microbes (bacteria) it contains. Yet this method is only used in research. This method increases the likelihood of locating the bacteria in the small bowel.

Breath test. The test requires the person to drink a beverage. Then, after a set time, they blow into an analytical device. This equipment will measure the gas volume produced by microbial fermentation contained in the sample. The time for fermentation to occur indicates where the microbes might be present within the bowel. It is not a direct measure however and is less exact than direct sampling.

Is SIBO common in people with irritable bowel syndrome (IBS)? The experts who have studied IBS and gut motility disorders have reported that the breath test for diagnosing SIBO in people with IBS is not exact. There are several reasons for this limitation.

- The breath test has given false results in people with IBS when compared with direct sampling of the small bowel. It may show SIBO when it's not there (false positive). It can also miss genuine cases (false negative). In one recent study, only 2 out of 1,000 people with IBS tested positive for SIBO. This suggests the test may not be reliable. Gut motility speed affects the results. Gut motility can be very variable. This is especially true in people with IBS.
- Even when doctors have performed the breath test on healthy people, it has produced false positive results for SIBO. They have no symptoms to suggest that they have a problem, unlike the people with IBS.
- Doctors have reviewed the treatments of people with a positive breath test to see if the test predicts treatment success. They found that a positive test does not mean the treatment will work.

The UK's IBS guidelines for gastroenterologists say to avoid the breath test. Experts also don’t recommend the breath test in people with IBS. You may see adverts for testing. It is important to know that these are often private companies selling the test. So, they have a vested interest in informing you that IBS has been misdiagnosed. There’s little proof that the breath test effectively diagnoses SIBO in people with IBS. A SIBO diagnosis in someone with IBS might restrict treatment to just antibiotics. Yet there are many other treatment options for people with IBS.

A gastroenterologist may refer for tests after reviewing the person’s medical history. This helps find the causes mentioned on page 1.

Unfortunately, using someone's medical history along with the breath test is currently the only way to test for SIBO outside of research. Researchers need to conduct more studies on other tests to diagnose SIBO and to differentiate it better from IBS.

HOW DOES SIBO AFFECT YOU OVER TIME?

It's not always possible to get rid of the causes of SIBO. So, symptoms might come back after treatment. Symptoms may re-occur at different times. This might need more antibiotic treatment or a longer cycle of antibiotics.

TREATMENT

WHICH TREATMENTS ARE AVAILABLE FOR SIBO?

Treating an underlying disorder. If you have had pancreatic surgery, ask to be tested for Pancreatic Exocrine Insufficiency (PEI). For people with PEI, ask your doctor for a review of your digestive enzyme prescription. This might also mean optimising the control of diabetes with treatment.

Is there anything I can do myself? Some doctors suggest avoiding continual snacking or grazing on foods. There is a wave of contractions that clear the small bowel of its contents. It is called the mitigating motor complex. It is useful to eat meals with a time delay in-between. This helps the motor complex clear the bowel contents better. This is **not** the same as fasting as it is acceptable to have three meals a day. The evidence supporting this advice is limited. If your body weight is below a healthy level or you're having diet issues, talk to your doctor. They could refer you to a dietitian.

Antibiotics. The main treatment is a course of antibiotics, which may be prescribed by your hospital consultant who will decide the best option for you. Your doctor may also suggest a trial of treatment if there is a strong suspicion that the cause of symptoms is SIBO.

Probiotics. Right now, there's not enough evidence to show that taking a probiotic helps. Since the strain and dose probably matter a lot, we can't recommend a specific product. Since the bacteria are not in the right place in people with SIBO, this may not work well. Probiotics may have a negative impact on SIBO. Further research is required to determine what is the preferred treatment option.

Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols (FODMAP) Diet. The low FODMAP diet is recommended for people with IBS. It is usually advised with the help of a dietitian. Sometimes, it is suggested for people with SIBO too. The theory is that it cuts back on foods that cause gut fermentation, which may lessen symptoms. However, there's no research showing it helps with SIBO or fixes the underlying issue. It only lowers the foods that could trigger symptoms. The low FODMAP diet is a very restrictive diet and should not be followed long term. Some studies suggest that following it for a long time can harm gut flora (microbiome). Ask your doctor for a referral to a dietitian if you are struggling with your diet.

SUPPORT

WHAT TO ASK YOUR DOCTOR?

- May I be referred to a dietitian to see if there are any changes to my diet that may help with my symptoms?
- Are there any other medications I could try?
- My symptoms have come back, do I need another / different treatment?
- Do I need any other testing to rule out other possible conditions?

References available on request.