

## Small intestinal bacterial overgrowth

Some of your symptoms may be caused by a condition called small intestinal bacterial overgrowth (SIBO) syndrome. This factsheet explains what it means and how it can be treated.

### What is small intestinal bacterial overgrowth?

Normally, very few bacteria should be able to survive in the upper small intestine. This is an area kept relatively sterile by our stomach acid and other fluids the body releases to help digest our food. However, huge numbers of bacteria live in the lower part of the small intestine. They have a very important role here, helping with the digestion of food and are very important in keeping us well.

When we eat, we rely on peristalsis (motility) of the bowel to move the food slowly through our gastrointestinal tract, where it is digested and absorbed. These muscle contractions are also very important for keeping the bacteria within our colon. They prevent them from growing upwards in large quantities through our small bowel.

However, in some people, patterns of muscular contractions of the small bowel can be abnormal. Bacteria can then multiply and live within some or all of the small intestine. This is called 'small intestinal bacterial overgrowth'. When the bacteria in the upper small bowel reach high enough numbers, they start to cause symptoms.

### What are the symptoms of small intestinal bacterial overgrowth?

Small intestinal bacterial overgrowth can cause many different symptoms. The most common symptom is diarrhoea. Sometimes, the loose stool appears greasy and pale because the bacteria interfere with absorption of fat in the diet. However, bacterial overgrowth can also cause excess flatulence (wind), bloating or abdominal pain and constipation. Further, SIBO can cause weight loss and deficiency syndromes (anaemia, vitamin B12 deficiency, deficiency of calcium).

### What causes small bowel bacterial overgrowth?

- 1) Previous surgery (part of the stomach or bowels has been removed)
- 2) Abnormal pattern of small bowel contractions (peristalsis) is present. This is typical for patients who have undergone pelvic radiotherapy for cancer, who have diverticula of the small bowels, small intestinal obstruction, Crohn's disease or diabetes mellitus
- 3) Impaired immune system – in patients receiving chemotherapy / immunotherapy
- 4) Long-term treatment with proton pump inhibitors (e.g. omeprazole / pantoprazole and so on)
- 5) Pancreatic insufficiency (especially in chronic pancreatitis).



## How is small bowel bacterial overgrowth diagnosed?

Two tests can be used, yet, neither of these are 100% accurate. The first test is an endoscopy based test when a gastroscope is inserted into the first part of the small intestine, fluid is obtained and sent for culture to the microbiology lab.

The second test is called a 'breath test'. Patient receives a drink containing sugar (glucose or lactulose). Bacteria in the first part of the small intestine use this sugar and produce gases. If there is an excessive amount of bacteria, a significant increase in production of gases follows. These gasses get into the blood stream and subsequently to the lungs. We can then measure these gases (hydrogen and methane) during the 'breath test'.

Some doctors prefer to give a trial of an antibiotic to see if a person's symptoms improve, rather than doing tests to look for bacterial overgrowth. Unfortunately, it is difficult to know which antibiotic to use. Different people respond to different antibiotics depending on whether the specific bacteria are sensitive to that antibiotic. People may respond to one particular antibiotic on one occasion. If the overgrowth returns, the bacteria may be different and resistant to that antibiotic and the person will require a different antibiotic.

## How is small bowel bacterial overgrowth treated?

1. Treatment of underlying condition (if possible) which contributes to the development of SIBO

### 2. Antibiotics

Antibiotics are usually used for one to two weeks and if they are helpful, most people notice a benefit within a few days of starting the treatment. The first line treatment is a non-systemic antibiotic called Rifaximin – this has been widely researched and shows to be an efficient antibiotic.

Other antibiotics including metronidazole or ciprofloxacin have also been studied but do not seem to be as effective as Rifaximin.

Often the symptoms will disappear but they can return at any time after the antibiotics are stopped. This could be from a few days to many years later. This is because the underlying cause of the bacterial overgrowth has often persisted. If symptoms return, further treatment with the same antibiotic or another antibiotic may help again.

In some patients, their symptoms return quickly. Taking antibiotics for one week each month may be helpful. Ask your doctor first, as some antibiotics taken long term can be harmful.

## Contact details

If you have questions about small bowel bacterial overgrowth or its treatment, please contact:

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|--|---------------------------------|-----------------------|
| GIANTS   | (GI and Nutrition Team Service) | 020 7811 8106         |
| A member of your medical team                    |                                 | .....                 |
| Your clinical nurse specialist or research nurse |                                 | .....                 |
| Pharmacy Medicines helpline                      |                                 | via the Hotline below |
| <b>The Royal Marsden Macmillan Hotline:</b>      |                                 | 020 8915 6899         |
| (available 24 hours a day, 7 days a week)        |                                 |                       |

