Understanding
Irritable Bowel Syndrome

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IMPORTANT
This book is intended not as a substitute for personal medical advice but as a supplement to that advice for the patient who wishes to understand more about his or her condition.

Before taking any form of treatment
YOU SHOULD ALWAYS CONSULT YOUR MEDICAL PRACTITIONER.

In particular (without limit) you should note that advances in medical science occur rapidly and some information about drugs and treatment contained in this booklet may very soon be out of date.

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What is irritable bowel syndrome?
Irritable bowel syndrome (IBS) is one of the most common gastrointestinal disorders, but it is puzzling for those who have it and for the doctors who treat it. Unlike disorders such as stomach ulcers or arthritis, there is no laboratory test, X-ray, scan or endoscopic investigation that can show whether or not you have IBS.

There is no clear-cut cure for the disorder. However, various kinds of treatment can relieve the symptoms and, with the right kind of support from your doctor, you can learn to live with it.

IBS is a syndrome, a collection of symptoms with similar features that occur together in a pattern that your doctor can recognise. In typical cases, there is rarely any doubt about the diagnosis, although you may have symptoms in any part of your gastrointestinal tract, which stretches from the oesophagus (gullet) to the rectum.

What are the main symptoms?
The term ‘irritable’ is used to describe the reaction of the muscles in the intestine, which respond to stress by
abnormal contractions. These may result in various combinations of the three main symptoms:

• pain
• diarrhoea
• constipation.

These symptoms are often worrying. However, if you have been told that you have IBS, you can take some comfort from the information that the disorder does not increase your chance of developing long-term serious conditions such as cancer or ulcerative colitis. Also, there is no evidence that people with IBS have a shorter life expectancy.

What will I find in this book?
The first five chapters of this book describe the structure and working of the gastrointestinal tract. They explain the symptoms of IBS and how it is recognised. They also cover what is known about its causes and how common it is in people from different ethnic groups in countries around the world.

Later chapters deal with common symptoms such as constipation and diarrhoea. They explain how these apparently opposite problems can be part of the same syndrome. These chapters also describe the various approaches to treatment that may be tried and how these can help. There is also practical advice on self-help measures that you may try.

The final chapters of the book discuss how people with IBS can learn to live with the disorder, and get support from a sympathetic doctor. The more that you understand about IBS and the reasons for your symptoms, the better you will be able to cope with them. We hope that this book will help you to do just that.

How common is IBS?
Irritable bowel syndrome affects around one in five adults in the industrialised countries. Even more people have at least one of its symptoms. A study in the USA found that, in one year, as many as 70 per cent of the general population had problems associated with abnormal bowel function, such as abdominal pain, constipation or diarrhoea.

Three-quarters of people with symptoms of IBS do not consult a doctor, and yet as many as half the people seen in a hospital outpatient clinic for gastrointestinal disorders have it as the cause of their problems. Evidence suggests that half the people with IBS seen in clinics also have symptoms of depression or anxiety.

In the UK, around eight million people have IBS. On average, each of them has 17 days off work a year, at an annual cost to the country of £500 million. Average work days missed in the USA per year were 14.8, compared with 8.7 in those without symptoms of IBS. Indeed, IBS ranks close to the common cold as a leading cause for absenteeism from work as a result of illness.

Symptoms of IBS are equally common in men and women, but women consult their doctors about these symptoms more often than men. About half of those with IBS develop symptoms before the age of 35; 40 per cent of people with the condition are aged 35 to 50 years.

There is a tendency for symptoms to occur less often as you get older, but some people do experience them for the first time later in life. Doctors tend to be more cautious about diagnosing IBS in elderly people. They will usually do so only after excluding other diseases of the gut.
What is the gastrointestinal tract?
The gastrointestinal tract is a long passageway that connects the mouth and anus. Digestion starts in the mouth, where food mixes with salivary enzymes. When you swallow, food is propelled down the oesophagus (gullet) into the stomach. In the stomach, it is broken down by the powerful digestive enzymes and the hydrochloric acid found in gastric juices.

From the stomach, food passes into the small intestine (duodenum, jejunum and ileum), where juices from the pancreas and gallbladder continue the digestive process. It is here that most nutrients are absorbed from the food. This happens as the intestinal contents are moved along by peristalsis (movement caused by alternating muscle contraction and relaxation).

Undigested waste (faeces) then moves into the large intestine (the colon). In the first part of the colon, muscle contractions slowly move it along towards the rectum while excess water is removed.
The gastrointestinal tract and the digestive process
Food must be broken down so that the body can absorb the nutrients. Undigested material and waste are expelled.

Just before defecation (bowel action), the waste is moved into the rectum and is then eliminated through the anus.

Daily fluid intake and loss
The intestines are capable of both absorbing and secreting fluid. Overall, it is estimated that nine litres of fluid pass through the intestines each day, of which only around two litres come from food and drink. The other seven litres are secreted by the body itself, in the form of saliva, bile and the juices of the stomach, pancreas and intestine.

These secretions provide the necessary conditions for rapid digestion of nutrients and for optimal absorption of nutrients and minerals. Of the nine litres, approximately 8.8 litres or more are reabsorbed back into the blood, so that less than 200 grams of water are excreted in the stools each day.

The intestines are therefore efficient, reabsorbing as much as 98 per cent or more of the water and minerals that pass through them. If anything prevents this from happening, so that less than 98 per cent of water is reabsorbed, then stool output will be more watery and you will have diarrhoea.

The large intestine
Normally, in the colon, the liquid material entering from the small intestine becomes solid as water is absorbed from it. This solid is then stored until it is convenient for you to open your bowels.

If you are an adult consuming a typical western diet, about 90 per cent of the 1.5 litres or so of liquid reaching your colon in a 24-hour period are absorbed. This leaves 200 millilitres of semi-solid material to be excreted.
The digestive process and daily fluid intake and loss

Liquid is added as digestive juices in the mouth, stomach and duodenum. The intestines both absorb and secrete fluid. Overall, it is estimated that nine litres of fluid pass through the intestines each day. Only around two litres of this comes from food and drink. The other seven litres are secreted by the body itself, in the form of saliva, bile and juices of the stomach, pancreas and intestine. The intestines are very efficient, reabsorbing as much as 98 per cent or more of the water and minerals that pass through them.

The daily intake of water and the secretions within the body are efficiently absorbed by the gastrointestinal tract.

**Source**

<table>
<thead>
<tr>
<th>Source</th>
<th>Quantity of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral intake</td>
<td>2,000 ml</td>
</tr>
<tr>
<td>Salivary glands</td>
<td>1,500 ml</td>
</tr>
<tr>
<td>Stomach</td>
<td>2,500 ml</td>
</tr>
<tr>
<td>Bile</td>
<td>500 ml</td>
</tr>
<tr>
<td>Pancreas</td>
<td>1,500 ml</td>
</tr>
<tr>
<td>Intestine</td>
<td>1,000 ml</td>
</tr>
<tr>
<td>Total water presented to the intestines</td>
<td>9,000 ml</td>
</tr>
<tr>
<td>Expelled in faeces</td>
<td>200 ml</td>
</tr>
<tr>
<td>Absorbed by the intestines</td>
<td>8,800 millilitres (ml)</td>
</tr>
</tbody>
</table>
The role of the intestines

Partially digested material enters the small intestine from the stomach. Liquid material enters the colon (large intestine) from the small intestine. It progressively solidifies as water is absorbed from it.

The wall of the small intestine is covered with millions of tiny finger-like projections, called villi; nutrients are absorbed into the bloodstream through the villi.

Cross-section through ascending colon – contents mushy
Cross-section through transverse colon – contents solidifying
Cross-section through small intestine – contents liquid

Food spends around 1 to 3 hours in the stomach, 2 to 6 hours in the small intestine and 12 to 48 hours in the colon. Normally, it passes through the colon relatively slowly so as to allow fluid to be absorbed. This absorption occurs mainly in the ascending and transverse colon.

Powerful muscle contractions propel solidified stool into the lower (sigmoid) colon and rectum several times a day. Defecation ultimately occurs as a result of complex interactions between sensory and motor nerves within the gut wall and the central nervous system. This interaction stimulates the muscles which empty the rectum. The muscles in the pelvis and rectum contract and the ring of muscle that controls the anus (the anal sphincter) relaxes in a coordinated way.

Transit times through the colon are usually shorter in men than in women, and men’s stools are heavier.
Progress of food through the body
After swallowing, food is moved by muscular contractions through the digestive system. The time spent in each part depends on the stage of digestion. It also varies with food type and quantity, and from day to day. The usual total time can vary from 15 hours to 5 days.
What are the symptoms?

How do doctors diagnose IBS?
As there is no laboratory or other test that confirms the diagnosis of IBS, doctors have to rely on the symptoms alone. These vary from person to person, but there are three main types.

The predominant symptom may be painful constipation, or the main problem may be a painless, though worrying and inconvenient, diarrhoea. Also, both types of bowel disturbances can occur together accompanied by abdominal pain.

Additional symptoms may include swelling (distension) of the abdomen with wind and unpredictable, erratic bowel actions varying from day to day.

There are some sex differences: straining and passage of hard stools may occur more commonly in women. In contrast, men are more likely to have frequent, loose stools.

As IBS can be diagnosed only from a collection of symptoms, doctors use certain criteria to help them.

The Manning criteria
An early attempt by a doctor called Manning to define IBS came up with a list of symptoms associated with the disorder. This identified six main features:

1. Abdominal pain relieved by defecation (bowel action)
2. Looser stools with the onset of abdominal pain
3. More frequent stools with the onset of abdominal pain
4. Abdominal distension
5. Passage of mucus in stools

Symptoms of IBS
The symptoms vary from person to person.

There are three main types:
1. Painful constipation
2. Diarrhoea
3. Painful constipation and diarrhoea together, accompanied by abdominal pain

Additional symptoms may include:
• Swelling (distension) of the abdomen with wind
• Unpredictable, erratic bowel actions varying from day to day
• Indigestion (dyspepsia)