Irritable Bowel Syndrome

diagnosis & management

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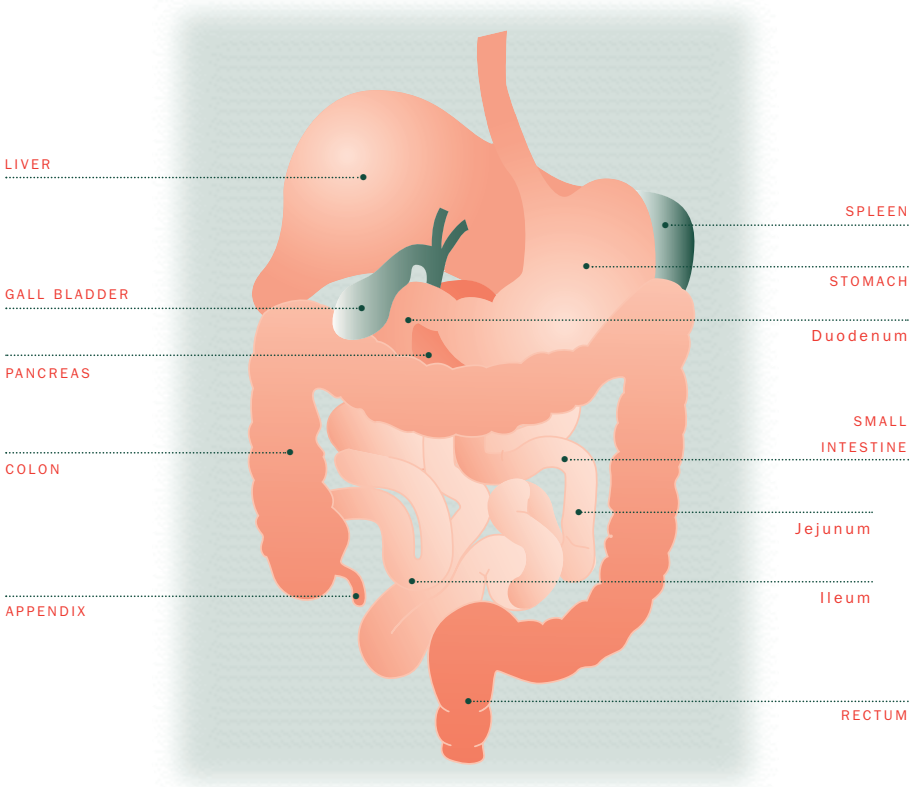
The digestive system



The process of digestion

The process of digestion mixes and softens food, breaking it down chemically so it can be absorbed by the intestine. The whole of the digestive tract moves rhythmically day and night, churning and squeezing food and mixing it with digestive juices.

The salivary glands begin to digest starch as soon as we eat. As we swallow, muscular contraction moves food down the oesophagus to the stomach.

The cells in the lining of the stomach produce hydrochloric acid and some enzymes, which begin digesting protein.

In the small intestine, more enzymes plus bile from the liver (via the gall bladder) and pancreatic secretions continue the digestive process. Together they break down fats, proteins and carbohydrates into simple nutrients, which can be easily absorbed into the blood. Most of these nutrients go to the liver and are then distributed to the rest of the body to provide energy.

Dietary fibre and some starches are not digested by the enzymes in the small intestine but pass to the large intestine where bacteria break them down to provide a further source of energy. The bacteria and any fibre that has not been broken down form faeces and are passed from the rectum.

The large intestine is a muscular tube about two metres long consisting of the colon and rectum. Its main function is to absorb water and allow fibre and starch from food to be broken down by bacteria. This produces fatty acids that nourish the cells in the colon. It is also normal for this process to generate gas, which may trouble some people. The bacteria and any food residues pass along the colon to become faeces.

The rate of movement of the residue is determined by muscular action. If there is too much action, diarrhoea occurs—if there is too little, constipation results. Normally the movement of the colon is well co-ordinated, but it is a complex system and if the rhythm is disturbed, pain and alterations in bowel habit can occur.

The rectum at the lower end of the large intestine is normally empty but regularly fills up to produce the urge to defaecate. The muscular action in the anal canal, which is connected to the rectum, prevents the involuntary passing of faeces, but can relax enough to allow wind to escape.

What is irritable bowel syndrome?

Symptoms:

Abdominal pain	Variable bowel habit
Diarrhoea	Bloating
Gas (wind)	Urgency of defaecation

Abdominal pain is usually in the lower abdomen, frequently on the left side, often worse in the morning and relieved by passing wind or defaecating.

Commonly pain occurs soon after waking and there is an urge to defaecate. This is repeated several times with a feeling of incomplete defaecation.

The urgency is sometimes severe and if there has been damage to the muscular function of the anus (during childbirth), loss of bowel control can occur with involuntary passing of faeces or mucus. Gas, bloating and abdominal distension are common and may be worse at the end of the day. Offensive wind is also common. It is socially embarrassing, but it has no serious effects on health.

What causes it?

1. Association with gastroenteritis

In up to 25% of cases, symptoms of irritable bowel start soon after an attack of gastroenteritis, commonly seen as diarrhoea. During the infection, toxins that are released may damage nerve fibres in the gut. The nerve damage may persist even after the infection clears, leading to disordered muscular contraction of the bowel.

2. Altered gut sensitivity

Experiments using balloons inflated within the intestine of patients with irritable bowel syndrome show that many are extra sensitive to distension or stretching of the gut.
The cause is yet to be explained.

3. Stress and anxiety

Medical researchers talk about the brain-gut axis. Many of the nerve-muscle messengers in the gut are similar to those in the brain and reactions can be triggered by various emotions. This is why many people get diarrhoea when they are nervous.

4. Food intolerance

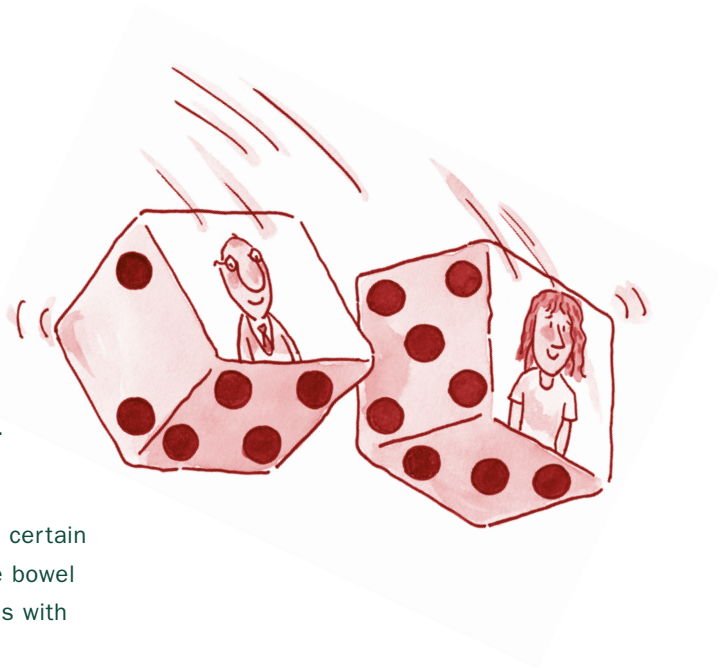
Some people may be sensitive to certain foods, but most cases of irritable bowel syndrome are not due to problems with particular foods.

Who gets it?

Irritable bowel syndrome is common and up to 30% of the population may have symptoms at some time in their life.

It can occur at any age but is most common between 20 and 60 years. Symptoms usually start before age 40.

Females are affected more often than males and symptoms may be worse at certain times of the menstrual cycle. Symptoms may also be worse at times of stress.



Food Intolerance

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How is irritable bowel disease diagnosed?

Irritable bowel syndrome is not a condition that reduces life expectancy, although diarrhoea and urgency are problems that often affect quality of life. The major concern is that the symptoms can be similar to those of other diseases, such as bowel cancer or colitis.

Your doctor can usually suspect irritable bowel syndrome from the pattern of symptoms, but there is no single test to diagnose the condition. However, it is often necessary for a doctor to exclude other conditions that have similar symptoms. These can only be excluded definitely by colonoscopy.

NB: *Rectal bleeding is not due to irritable bowel syndrome and needs special investigation by your doctor.*

Colonoscopy is essential if:

you have had bowel cancer or polyps

you are over 40 years of age

you have a family history of bowel cancer or polyps

you have any bleeding from the bowel

you have persistent diarrhoea (in which case, biopsies are needed to exclude microscopic colitis)

you are anaemic

In younger people, colonoscopy may only be necessary if symptoms persist after a period of appropriate treatment. Additional investigations may include blood tests and faecal examination for parasites or infections. Endoscopy, or examination of the stomach, may also be necessary, especially if pain is located high up in the abdomen.

Colonoscopy is an examination with a flexible instrument long enough to allow inspection of the entire bowel. It can be used to take tissue samples (biopsies) or to remove polyps. It is done under intravenous sedation and is usually painless.

What should you do about irritable bowel syndrome?

Once your doctor has excluded other conditions, a variety of therapies may be of value. Guidelines, which are helpful, include:

1 Understanding irritable bowel syndrome is important.

If you have concerns that some disease may have been missed, you should discuss this openly with your doctor. Many people are worried that their symptoms may be due to cancer. Improvement in symptoms may not occur until you are confident that serious diseases have been excluded.

2 Look for lifestyle or dietary factors which aggravate your symptoms and may need attention:

Are your symptoms worse with stress?

Do you drink too much alcohol?

Are your symptoms worse after consuming milk or ice cream? (lactose intolerance)

Are you taking medications which might aggravate diarrhoea? (eg. antibiotics, antacids, laxatives, some tablets for blood pressure)

Are you taking medication which might aggravate constipation (eg. antidepressants, iron tablets, pain killers, tranquillisers, some tablets for blood pressure)

3 Diet

Some cases of irritable bowel syndrome occur because the diet is poor and meals are haphazard with high consumption of fatty foods, coffee and cola drinks and low consumption of high-fibre healthy foods. A good healthy diet is essential for everyone. The best pattern is to:

Eat most—of fruits, vegetables, breads and cereals (preferably wholegrain), legumes, seeds and nuts

Eat moderately—of lean meat, chicken, fish, milk, cheese, yoghurt, eggs

Eat least—fatty, salty and sugary food.

4 Dietary fibre

A high-fibre diet helps most people with irritable bowel syndrome. Many people mistakenly think a high-fibre diet means adding some bran at breakfast and including a salad. This is not enough and unprocessed bran may make the problem worse.

High-fibre foods include:

Wholemeal bread

Wholegrain cereals

Legumes
(dried beans, peas and lentils)

Fruits (but not juices)

Nuts and seeds

Vegetables
(cooked vegetables often have more fibre than salads)

Some windy foods, which cause problems for some people, include:

Lactose in milk
(especially fat-reduced fortified milk) or ice cream

Cabbage, Brussels sprouts and cauliflower

Legumes
(dried beans and peas)

Sorbitol and mannitol
(in some low kilojoule foods) —check the label

By eating more dietary fibre, you may find constipation and abdominal pain improve but, initially, you may have more bloating. Unprocessed bran is the most common culprit in this regard, especially if it has been finely milled to produce small flakes. Eating this type of bran may cause more problems than it fixes. It is better to have other food sources of fibre.

For more information on dietary fibre, see The Gut Foundation's booklet ***Dietary Fibre and Health*** (available on www.gut.nsw.edu.au).

Bulking agents

As well as an adequate intake of dietary fibre, a bulking agent may be helpful. A convenient bulking agent is some form of psyllium (two examples are *Metamucil* and *Agiofibe*). With most psyllium preparations, a daily intake of two to three teaspoons with a glass of water each morning is usually recommended. Other bulking agents include ispaghula husk derivatives (for example *Fybogel*) and sterculia-based products (for example *Normafibe* and *Alvercol*). *Movicol* is also valuable if constipation is a prominent symptom.

Drugs

Mebeverine (eg. *Colofac*) is an antispasmodic, which is often highly effective in relieving pain and urgency. To be useful, it must be taken on a long-term basis three times a day. Some people take the drug only when symptoms appear because it is expensive and is not currently on the Pharmaceutical Benefit Schedule. It is unlikely to be as useful taken this way. Tricyclic compounds such as *Tryptanol* or *Amitriptyline* were developed as antidepressants, but also have a separate effect on nerves and muscles in the bowel and bladder and are often helpful in relieving pain. In general, tricyclic drugs are only used when mebeverine has failed to provide satisfactory relief of symptoms. Other medications such as *Buscopan* or *Merbentyl* may help.

If the predominant problem is watery diarrhoea, anti-diarrhoeal agents such as *Imodium* or *Lomotil* are often useful. Narcotic-based anti-diarrhoeal compounds such as codeine should generally be avoided, although in rare cases they may be the only means of effectively controlling severe diarrhoea.

Has microscopic colitis been excluded as the cause of diarrhoea by colonoscopy with biopsies?

Where diarrhoea is associated with urgency resulting in incontinence, mebeverine should be tried first. If this is ineffective, a tricyclic compound is added, and if the stool is still liquid, *Imodium* may also be necessary. If incontinence still occurs when the stool is formed, it is necessary for a doctor to evaluate the anal sphincter muscle. Surgical repair may be useful in some cases. The passage of small quantities of clear mucus is usually associated with internal haemorrhoids rather than sphincter damage, and is treated by banding or injection.

Newer drugs, which affect nerve pathways within the gut, are being developed.

Zelmac® (tegaserod) is a representative of a new class of drugs called 5-HT4 receptor agonists. *Zelmac* is indicated for the treatment of constipation-predominant irritable bowel syndrome in women. *Zelmac* has been shown to speed up gut motility and so increase stool frequency. It has also been shown to soften stool consistency and reduce abdominal pain, discomfort and bloating associated with irritable bowel syndrome. *Zelmac* should be taken twice a day. The recommended treatment time is three months. Symptoms may recur when treatment is stopped.

Laxatives are rarely useful for irritable bowel syndrome. Surprisingly, a high fibre diet and bulking agents are much more useful, even when diarrhoea is a problem.

A high-fibre diet *might include:*

Breakfast	*Fibre (grams)*
Bowl of wholegrain cereal (eg. bran flakes, rolled oats, wheat biscuits, natural muesli, soy and linseed cereals)	4 – 11 *(depending on cereal chosen)*
Fresh fruit, (eg. bananas)	2 – 3
Milk preferably low fat	0
2 slices of wholemeal toast	5
Morning tea	
1 piece of fruit	3
Lunch	
Sandwich with wholemeal bread, chicken and salad	7
Piece of fruit	3
Afternoon tea	
1 piece of fruit	3
Dinner	
Large serve vegetables	5
Potato	2
Fish, chicken or lean meat	0
Fruit salad or apple crumble	4
Total fibre	*37 – 45 grams*

For those who follow naturopathic remedies, it is important to also check with an Accredited Practising Dietitian that the diet is adequate. (Telephone the **Dietitians Association of Australia on 1800 812 942** for contact details).

A guide to fibre

Food		*Fibre (grams)*
Bread, white	2 slices	2
Bread, wholemeal	2 slices	4 – 6
Bread, multigrain or soy and linseed	2 slices	3 – 8
Breakfast cereal, high-fibre (eg. bran cereal)	average serve	10
Breakfast cereal, medium-fibre (eg. Weet Bix)	2	4
Breakfast cereal, low-fibre (eg. Rice Bubbles)	average serve	0
Fruit (eg. apple, banana)	average piece	3
Legumes (eg. chick peas)	1 cup cooked	9
Nuts or peanut butter	1 tablespoon	3
Pasta, cooked	1 cup	3
Pasta, wholemeal, cooked,	1 cup	9
Rice, white, cooked	1 cup	2
Rice, brown, cooked	1 cup	4
Seeds (eg. sunflower)	1 tablespoon	2
Vegetables, cooked	1 cup	2 – 8
Vegetables, raw	1 cup	1 – 3

For more details on dietary fibre, see The Gut Foundation's booklet ***Dietary Fibre and Health***.

Notes