

of serious conditions can be slow, says **Anne Woodham**

The risks of ignoring your gut feelings

The gastric system is a miracle of housekeeping — nine metres of gut processing food to fuel the body, as well as eliminate waste products. Small wonder, then, that the health of our gut is considered a measure of our physical (and some would say psychological) wellbeing.

The statistics speak volumes: gut problems congest GPs' surgeries, accounting for more than 3.3 million consultations every month. According to the Digestive Disorders Foundation gastrointestinal disorders are responsible for one in ten deaths in Britain. A recent survey for the foundation found that more than one in four people suffer from digestive disorders at least once or twice a week. One in three reported that he or she had been diagnosed as suffering from a digestive disorder: constipation, heartburn and irritable bowel syndrome topped the list.

Even when gastrointestinal disorders don't kill you, they can make life miserable, with painful and humiliating symptoms. Yet for the average Briton, the area is the source of an uneasy ambivalence, lurching somewhere between hilarity and embarrassment. The same person who sniggers at whoopee cushions and scatological jokes would rather die (literally, as it may turn out) than discuss their flatulence and bloody stools with a stranger.

In an average lifetime, our gut will handle 65 tonnes of food and drink, a fact that someone with a mind for these things calculated to be equal to the weight of a dozen elephants. Food takes from one to three days to travel the length of the gut, pushed along by rhythmic contractions of muscles in the gastrointestinal wall.

Digestion starts the moment we put food in our mouth, where it is moistened and softened by saliva and assaulted by the first of a series of enzyme attacks to break it down into nutrient molecules.

Swallowing pushes chewed food down the oesophagus or gullet, and through a valve into the stomach, where gastric juices, a cocktail of acids and enzymes, churn it to a porridge-like mush that passes to the small intestine. Here pancreatic enzymes home in on carbohydrates, proteins and fats, while bile, produced in the liver and stored in the gall bladder, emulsifies fat into droplets.

The food is now reduced to molecules tiny

enough to slip through the intestinal wall into the bloodstream. What is left moves on to the colon or large intestine, where millions of bacteria (intestinal flora) polish off any remaining undigested material. The final waste matter, called faeces, is held at the end of the colon for excretion.

With such a complex process, a lot can go wrong — and it does, not least because of what we put into our mouths. While some digestive problems, such as food poisoning, get better of their own accord, others will be symptoms of more serious and chronic diseases such as ulcerative colitis and cancer.

The good news is that research into diseases of the gut offers hope for life-threatening disorders such as inflammatory bowel disease, as well as confronting some of the most intractable and increasingly common cancers — and this year the British Society of Gastroenterology and the Digestive Disorders Foundation are joining forces to launch the Digestive Cancer Campaign to fund four new research centres.

As with many other conditions, genetic influences are proving important. Ulcerative colitis and Crohn's disease are known to run in families, and last year a susceptibility gene was found for the latter.

Gene research may soon identify those who will benefit most from new pharmaceutical breakthroughs. For example, infliximab (available as the prescription drug Remicade), an antibody that neutralises production of a substance which causes inflammation in Crohn's disease, has been successful in two thirds of patients for whom other medication has failed.

Even when they don't kill you, gastrointestinal disorders can have painful, humiliating symptoms

However, at £2,000 for a single infusion it is an expensive option. Finding a way to sift those who would respond well from those who would not, would be efficient in terms of time and cost.

Our lifestyles are contributing to a rise in alcohol-related liver disease and pancreatitis, and probably to what gastroenterologists call an "epidemic" of oesophageal cancer, the incidence of which is growing at 5 per cent a year.


The majority of new cases of oesophageal cancer are found in the growing numbers of people with a "Barrett's oesophagus", a condition in which stomach-type cells replace normal (squamous) cells at the lower end of the gut. A number of gastroenterologists believe that regular endoscopic screening (where the patient swallows a slim, flexible tube with a camera in the end) of those with Barrett's could detect early cancer while it might be treatable.

At present, however, even those with overt symptoms of oesophageal cancer can wait up to a year for a diagnostic endoscopy. "In Europe or America, it's done the same day or within a week or two," says Derek Jewell, Professor of Gastroenterology at the John Radcliffe Hospital, Oxford, and president of the British Society of Gastroenterology.

"The Government's two-week waiting rule to see a cancer specialist is all very well, but if you then have to wait months for a diagnostic procedure you haven't gained very much."

The truth is that there are not enough gastroenterologists to do the tests. "One gastroenterology consultant per 60,000 head of population is necessary to deliver an adequate service," says Dr Martin Sarnor, Consultant Gastroenterologist at University College London Hospitals and chair of the public relations and education committee of the Digestive Disorders Foundation.

The average in England and Wales is one for every 120,000 people. In Europe it is one per 50,000.

 GASTROENTEROLOGY LINKS

www.digestivedisorders.org.uk
Digestive Disorders Foundation (for information ring 020-7486 0341 or e-mail the foundation at ddf@digestivedisorders.org.uk)

LIVER

OESOPHAGUS

STOMACH

GALL BLADDER

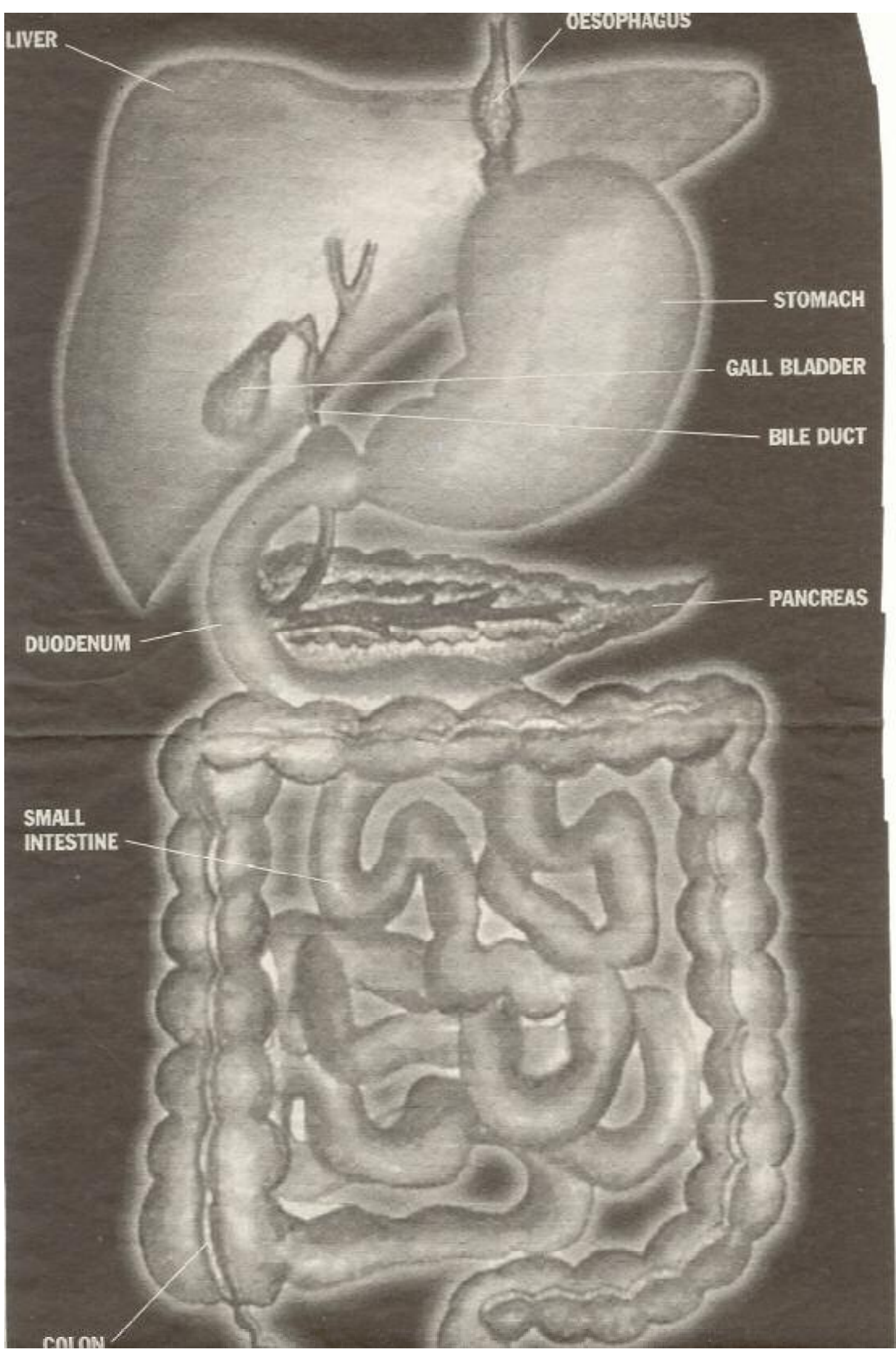
BILE DUCT

PANCREAS

DUODENUM

SMALL
INTESTINE

COLON





An X-ray showing a narrowed section of a descending colon, a painful condition that can be caused by inflammation of the lining of the colon

Inflammatory bowel disease

Symptoms

Urgent diarrhoea, bleeding, abdominal pain and tiredness are common symptoms of chronic ulceration and inflammation of the bowel (forms of inflammatory bowel disease, or IBD). Ulcerative colitis affects the lining of the colon (large intestine) or rectum. Crohn's disease may affect any part of the digestive tract, and the bowel wall can become inflamed.

People with ulcerative colitis whose rectum is inflamed (proctitis) may pass blood and mucus. Those with Crohn's may report loss of weight, vomiting, bloating and other inflammations of the joints, skin and eyes. Both diseases tend to have flare-ups interspersed with periods of inactivity.

Causes

Both diseases tend to run in families, which suggests an inherited susceptibility triggered by unknown environmental factors.

Dr Andrew Wakefield, formerly at the Royal Free Hospital, London, has suggested that the measles virus or MMR vaccine might be linked to Crohn's disease, but studies have not confirmed this. Professor John Herman-Taylor, a gastroenterologist at St George's Hospital, London, argues that an organism called *Mycobacterium paratuberculosis* (MAP), which causes Crohn's-like symptoms in cattle, is transferred through milk and water to people. Herman-Taylor recommends antibiotic treatment. Other centres have failed to find evidence of MAP in Crohn's disease patients.

Incidence

Ulcerative colitis affects one in 600 people, with 5,600 cases diagnosed annually, mostly in people aged 15

to 25. About one in 1,600 people in Britain suffers from Crohn's disease and 3,000 new cases, usually in people aged between 15 and 25, are diagnosed each year. Both sexes are equally susceptible. "These are miserable conditions, affecting people when they should be at the height of their powers," says Dr John Hunter, Consultant Gastroenterologist at Addenbrookes Hospital, Cambridge.

Treatment

Drug treatment has reduced mortality in severe ulcerative colitis from 50 per cent in 1955 to less than 1 per cent in specialist centres. Corticosteroids such as prednisolone can reduce inflammation in 80 per cent of IBD cases, but patients can be unhappy with side effects that include rounding, or "mooning", of the face, weight gain, mood swings and, more seriously, osteoporosis. IBD symptoms can return when treatment stops. Aminosalicylates (5-ASAs) are highly useful for ulcerative colitis, but side effects include headaches, nausea and watery diarrhoea.

Immunomodulators, such as cyclosporin and methotrexate, enable people to withdraw from steroids but can leave them open to infections. Infliximab (available as Remicade), the antibody that acts to reduce the action of tumour necrosis factor, the key messenger of Crohn's inflammation, appears to be effective for two-thirds of patients but costs £2,000 for a single infusion. The National Institute for Clinical Excellence delivers a verdict on whether it will be available through the NHS next month.

All these drugs have side effects, and infliximab has been linked with TB. Hunter claims that specific diets keep 50-60 per cent of his

Crohn's disease patients in remission for two years.

Surgery to remove the colon or diseased areas is the last resort for severe IBD, but this mostly means a permanent ileostomy bag (a bag attached to the lower part of the small intestine). In cases of ulcerative colitis, removing the colon and constructing a pouch from a segment of small intestine to replace the rectum can avoid an ileostomy. When the whole colon is inflamed, the risk of cancer after ten years increases to about 20 per cent.

Latest research

The first gene to be linked to Crohn's disease, NOD2 on chromosome 16, is found in 40 per cent of people with the disease in the small intestine, according to Professor Derek Jewell, of the John Radcliffe Hospital, Oxford, who is president of the British Society of Gastroenterology. Researchers at Oxford have pinpointed other genes associated with IBD. "The real challenge is to identify genes that influence the disease, as well as susceptibility," says Dr Simon Travis, Consultant Gastroenterologist at the John Radcliffe Hospital. "This would allow treatment to be targeted at those at highest risk."

The European Union is funding a Europe-wide investigation into the role of diet in IBD. Dr John Cummings is conducting trials of a low-sulphate diet at Ninewells Hospital Medical School, Dundee, based on the theory that the body's production of hydrogen sulphide may trigger ulcerative colitis.

Researchers at Bologna University recently found that a probiotic "soup" containing bifidobacter, lactobacilli and streptococci relieved inflammation in ileal pouches, and are investigating its potential for

IBD. (An American company markets the probiotic preparation used in the trial as VSL#3.)

Travis suspects the answer might lie in the thousands of species of micro-organisms in the "bio-film", a thin layer of water and mucus that separates the surface of the bowel and its contents and has scarcely been investigated. These micro-organisms may be determined by the type of mucus in the colon, which, in turn, is controlled by our genes, he says.

Prevention

IBD trigger factors include stress, colitis, some drugs such as aspirin, and certain foods — notably dairy products and cereals. Stopping smoking reduces the risk of relapse fourfold in Crohn's, although not in ulcerative colitis.

European comparisons

According to Hunter, treatment for IBD is as good in Britain as anywhere, even America. But, he says, "there's no doubt that you get faster and prompter specialist treatment in many European countries. What patients find most distressing is the lack of continuity, discussing embarrassing symptoms with different doctors, and delays in diagnosis and referral."

Links

www.nacc.org.uk National Association for Colitis and Crohn's Disease, 0945 130 2233
Crohn's in Childhood Research Association (020-8949 6209), e-mail: support@ccra.org
www.ileostomypouch.demon.co.uk Ileostomy and Internal Pouch Support Group, 0800 018 4724
www.vsl3.com VSL3 Pharmaceuticals (US manufacturer of VSL#3 probiotic preparation)

Irritable bowel syndrome

Symptoms

Irritable bowel syndrome (IBS) is not so much a disease — tests reveal no abnormalities in the gastrointestinal tract — as a collection of persistent symptoms. These include abdominal cramps and pain relieved by bowel action, a feeling of fullness or bloating, flatulence, mucus in the stools, a sensation of not having finished a bowel motion, constipation and diarrhoea, either separately or alternating.

Incidence

More than a half of all patients attending outpatient gastroenterology clinics have IBS, according to the Digestive Disorders Foundation. A third of people in Britain have occasional IBS symptoms, and in one in ten of these are severe enough to seek medical attention. It usually emerges between the ages of 15 and 40 and is equally common in men and women, although women consult doctors more.

Causes

Some studies have found a link between the onset of IBS and stressful events such as redundancy or bereavement. Around 10-15 per cent of IBS patients may be chronically depressed, and depression tends to slow the action of the gut while anxiety increases it. Eating a meal, or experiencing gas in the bowel, can also trigger muscle contractions and spasms. Too much or too little dietary fibre, too much fat or a rich and spicy diet may also upset bowel function. IBS may be triggered by other illnesses which make the gut more sensitive.

According to Robin Spiller, Professor of Gastroenterology at Queen's Medical Centre, Nottingham, an acute attack of gastroenteritis or food poisoning can inflame and damage the gut. Studies have found that around 40 per cent of people with IBS have food intolerances. The commonest foods implicated are those that cannot be completely digested and may ferment in the gut, such as wheat, dairy products, coffee, potato, corn, oats, onions and Jerusalem artichokes.

Treatment

Medical advice may focus on particular symptoms such as constipation. People with unusual symptoms such as rectal bleeding will be tested for other bowel problems. Studies show that psychological therapies can result in a 60-70 per cent improvement in IBS symptoms. Anxiety may be relieved by learning relaxation techniques and by cognitive behavioural therapy. Innovative studies by Dr Peter Whorwell, a gastroenterologist at Withington Hospital, Manchester, showed that hypnotherapy is effective in teaching patients self-hypnosis techniques to control symptoms. Antispasmodic drugs such as mebeverine can relieve pain but tend to lose their effectiveness. Low-dose tricyclic antidepressants work by regulating bowel transit and easing allergic reactions. Dietary adjustments such as eliminating suspect foods are a matter of trial and error.

Research

Brain overreaction to the neurotransmitter serotonin is suspected of causing disturbances in bowel action. Alasetron, a serotonin antagonist to treat diarrhoea-predominant IBS, seemed effective but was withdrawn in 2000 because of concerns about side effects. Tegaserod, a similar drug for constipation-predominant IBS that is said to have fewer side effects, is in the pipeline. Studies with MRI scans and magnetoencephalography to identify which parts of the brain process sensations from the gut have shown that some people are hypersensitive to

stimulation, often as a result of previous injury such as food poisoning.

"When our brain perceives sensation from any part of the body, we have two major responses: where it's coming from and what our emotional response is," says Dr Qasim Aziz, Consultant Gastroenterologist at Hope Hospital, Manchester, and a leading researcher of the "brain-gut axis". In cases where the brain's emotional centre is amplifying normal nerve signals, cognitive behavioural therapy might be more appropriate than drugs.

Prevention

Keep mealtimes relaxed and eat slowly. Avoid any foods that seem to upset the gut. Practise stress management techniques and take plenty of exercise.

Links

www.ibsnetwork.org.uk

IBS Network, 0114 261 1531

www.incontact.org

Incontact — for people with bladder and bowel problems, 020-7700 7035

Complementary medicine

Indigestion

● Ginger relieves indigestion and nausea, according to a number of studies. Researchers think it might neutralise the gut toxins and acids and slow the feedback between the stomach and the nausea centre of the brain.

Irritable bowel syndrome

● Several trials show that peppermint oil, an anti-spasmodic that prevents flatulence, may relieve irritable bowel syndrome (IBS) symptoms, but the reported side-effects can include heartburn, blurred vision and nausea.

● A study of 40 people (*Pain*, 1987) with ulcerative colitis found relaxation training reduced pain. Other stress management techniques include hypnosis, autogenic training (repetition of phrases for relaxation), imagery (visualising pain relief), meditation and yoga.

● Aloe vera, a traditional remedy for inflammatory bowel disease, is undergoing a trial at the Royal London Hospital after initial assessments looked promising.

● A Chinese herbal preparation containing 20 herbs significantly reduced the symptoms of IBS, according to a 1998 study in the *Journal of the American Medical Association*.

Anne Woodham

Links

www.counselling.co.uk

British Association of Counselling, 01788 550889

www.nlmh.org.uk

National Institute of Medical Herbalists, 01392 426022

www.autogenic-therapy.org.uk

British Autogenic Society, 020-7713 6336

How to ensure you get the best treatment

■ Ask the surgeon how many of this kind of operation he or she has performed.

■ Ask for the outcomes of the surgeon's most recent operations. "Be ever so faintly suspicious if they don't know," says one senior surgeon. Make sure that the figures you are given are the surgeon's own, not a national average.

■ If you are having a cancer removed, make sure that you are referred to a designated cancer specialist, or to a designated cancer team.

■ Make sure that you are referred to a specialist clinic, such as a vascular clinic.