ACUPUNCTURE AND IBS

British Acupuncture Council

About IBS

Irritable bowel syndrome (IBS) describes a collection of symptoms, commonly including chronic abdominal pain, bloating, flatulence and altered bowel habits. It is a functional disorder of the intestines, occurring in the absence of visible structural abnormality.

IBS affects up to 22% of people in the UK (Maxwell 1997) and is the most common functional digestive disorder seen by GPs. Women are 2-3 times more likely to develop IBS, and often suffer more symptoms during their periods. The condition often begins in adolescence or early adulthood. Predisposing factors may include a low-fibre diet, emotional stress, use of laxatives or a bout of infectious diarrhoea. It is typically a chronic, recurrent disorder, associated with substantial health, social and economic costs. Pain and impairment from IBS can lead to frequent doctor visits, hospitalizations and workplace absenteeism, and can cause depression.

The cause of IBS is unclear, but it appears that sensory nerves in the bowel are hypersensitive in people with IBS and may overreact when the bowel wall stretches. Intestinal muscles can be hypo- or hyperactive, causing pain, cramping, flatulence, sudden bouts of diarrhea, and/or constipation. The symptoms are usually triggered by stress or eating. Systematic reviews of the research literature suggest that conventional medications are of limited benefit in IBS (Akehurst 2001).

References

Akehurst R, Kaltenthaler E. Treatment of irritable bowel syndrome: a review of randomised controlled trials. Gut. 2001 Feb;48(2):272-82.

Maxwell PR et al. Irritable bowel syndrome. Lancet. 1997 Dec 6;350(9092):1691-5.

How acupuncture can help

Research has shown that acupuncture treatment may benefit IBS symptoms by:

- Providing pain relief (Pomeranz 1987).
- Regulating the motility of the digestive tract (Yin 2010, Chen 2008).
- Raising the sensory threshold of the gut. Various possible mechanisms have been identified, involving spinal nerves and NMDA receptors and a range of neurotransmitters (Xu 2009, Ma 2009, Tian 2008, Tian 2006, Xing 2004). A lowered threshold to bowel pain and distention are hallmarks of IBS.
- Increasing parasympathetic tone (Schneider 2007b). Stress activates the sympathetic nervous system, which can stimulate colon spasms, resulting in abdominal discomfort. In people with IBS, the colon can be oversensitive to the smallest amount of conflict or stress. Acupuncture activates the opposing parasympathetic nervous system, which initiates the relaxation or 'rest and digest' response.
- Reducing anxiety and depression (Samuels 2008). The distress provoked by IBS symptoms can lead to a vicious cycle of anxiety-pain-anxiety, while the embarrassing nature of the condition can lead to feelings of depression. Acupuncture can alter the brain's mood chemistry, increases production of serotonin and endorphins (Han 2004), helping to combat these negative affective states.

There is consistent evidence that a course of acupuncture improves IBS symptoms and general wellbeing (Anastasi 2009, Trujillo 2008, Reynolds 2008, Schneider 2007b, Xing 2004, Lu 2000), though there are arguments about the extent to which the effect is placebo-related (Lembo 2009, Schneider 2007a, Lim 2006, Forbes 2005). As yet there is no satisfactory placebo/sham intervention for acupuncture so this is still a matter for conjecture. There are plausible physiological explanations for acupuncture's effects (see above) and it can promote mechanisms not seen with sham treatments (Schneider 2007b).

Acupuncture can be safely and effectively combined with Western biomedicine, and other treatments such as relaxation exercises, herbal medicine and psychotherapy. In addition to offering acupuncture and related therapies, acupuncturists will often make suggestions as to dietary and other lifestyle changes that may be helpful in combating IBS symptoms. Working with a supportive therapist can also help people suffering from IBS to change their negative health beliefs and improve their coping mechanisms, which can have a positive influence on both mood and symptoms.

Full details of research studies into traditional acupuncture treatment for IBS can be found overleaf.

About traditional acupuncture

Acupuncture is a tried and tested system of traditional medicine, which has been used in China and other eastern cultures for thousands of years to restore, promote and maintain good health. Its benefits are now widely acknowledged all over the world and in the past decade traditional acupuncture has begun to feature more prominently in mainstream healthcare in the UK.

Traditional acupuncture takes a holistic approach to health and regards illness as a sign that the body is out of balance. The exact pattern and degree of imbalance is unique to each individual. The traditional acupuncturist's skill lies in identifying the precise nature of the underlying disharmony and selecting the most effective treatment.

The World Health Organisation (WHO) recognises that acupuncture can help resolve specific symptoms or conditions. Traditional acupuncture can also be used as a preventive measure to strengthen the constitution and promote general wellbeing.

An increasing weight of evidence from Western scientific research (see overleaf) is demonstrating the effectiveness of acupuncture for treating a wide variety of conditions and revealing the mechanisms by which it acts. From a biomedical viewpoint, acupuncture is believed to stimulate the nervous system, influencing the production of the body's communication substances - hormones and neurotransmitters. The resulting biochemical changes encourage the process of homeostasis, activating the body's self-regulating systems, thus stimulating its natural healing abilities and promoting physical and emotional wellbeing.

About the British Acupuncture Council

With over 3000 members, the British Acupuncture Council (BAcC) is the UK's largest professional body for traditional acupuncturists. Membership of the BAcC guarantees excellence in training, safe practice and professional conduct.

To find a qualified traditional acupuncturist, contact the British Acupuncture Council on 020 8735 0400 or visit www.acupuncture.org.uk

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The evidence

Research	Conclusion
Reviews	
Yin J, Chen JD. Gastrointestinal motility disorders and acupuncture. Auton Neurosci. 2010 Apr 2. [Epub ahead of print]	Gastric motility has been mostly studied; much less information is available on the effect of acupuncture on small and large intestinal motility or related disorders. In summary, acupuncture is able to alter gastrointestinal motility functions and improve gastrointestinal motility disorders. However, more studies are needed to establish the therapeutic roles of EA in treating functional gastrointestinal diseases such as gastroesophageal reflux, functional dyspepsia and irritable bowel syndrome.
Schneider A et al. Acupuncture treatment in gastrointestinal diseases: A systematic review. World J Gastroenterol 2007a; 13(25): 3417-3424.	Systematic review and meta-analysis of acupuncture for gastrointestinal diseases. In 2 trials of acupuncture for IBS identified as being of high methodological quality, quality-of-life improved remarkably after acupuncture, although there was no difference between real and sham/placebo acupuncture.
Lim B et al. Acupuncture for treatment of irritable bowel syndrome. Cochrane Database Syst Rev. 2006 Oct 18;(4):CD005111.	Systematic review and meta-analysis of acupuncture for IBS. Analysed pooled results of 6 trials. Acupuncture treatment and sham acupuncture found to be equally effective. For two studies without a sham control, acupuncture was more effective than control treatment (herbal medicine or psychotherapy) for improvement of symptoms.
Clinical studies	
. Anastasi JK et al. Symptom management for irritable bowel syndrome: a pilot randomized controlled trial of acupuncture/moxibustion. Gastroenterol Nurs. 2009 Jul-Aug;32(4):243-55	Twenty-nine people with IBS were randomized to 8 sessions of either individualized acupuncture/moxibustion or sham/placebo. Average daily abdominal pain/discomfort improved in the Acu/Moxa group but there was little change in the sham control (a statistically significant difference between groups). The intestinal gas, bloating, and stool consistency composite score showed a similar pattern of improvement. Conclusions: Acu/Moxa treatment shows promise for symptom management for IBS.
Lembo AJ et al. A treatment trial of acupuncture in IBS patients. Am J Gastroenterol. 2009 Jun;104(6):1489-97. .	230 IBS patients were randomly assigned to 6 sessions of true or sham acupuncture or a waitlist control group. Both acupuncture groups improved significantly more than the waitlist (37 vs. 4%). On the IBS Global Improvement Scale true acupuncture performed better than sham (41 vs. 32%) but not statistically significantly. Similarly, small but non-significant differences favoured acupuncture for secondary outcomes of symptom severity, adequate response and quality of life. The authors concluded there was not evidence to support the superiority of acupuncture compared with sham.
Renolds JA et al. Acupuncture for irritable bowel syndrome an exploratory randomised controlled trial. Acupunct Med 2008 Mar; 26(1):8-16.	Pragmatic randomized controlled trial of acupuncture for IBS involving 30 patients. Compared 10 sessions of acupuncture plus usual GP care with usual GP care alone. At 3 months, a statistically and clinically significant difference between groups of 138 points in favour of acupuncture was observed on the IBS Symptom Severity Score.
Trujillo NP. Acupuncture for the treatment of irritable bowel syndrome. Med Acupunct 2008 Mar 20(1):47-49.	Uncontrolled study in which 149 patients with IBS, which had not responded to standard medical care, were treated with two different acupuncture protocols. Found an overall 80% improvement in both acupuncture groups.
Schneider S et al. Neuroendocrinological effects of acupuncture treatment in patients with irritable bowel syndrome. Complement Ther Med. 2007b;15(4):255-63.	Randomized controlled trial of acupuncture for IBS involving 43 patients. Compared acupuncture with sham acupuncture using a non-penetrating needle. Found quality-of-life improved in both groups, while true acupuncture group showed greater improvement relating to parameters measuring activation of the parasympathetic nervous system. Authors conclude real acupuncture, but not sham acupuncture, improved IBS symptoms via its effects on parasympathetic control of gut sensations and functions.
Forbes A et al. Acupuncture for irritable bowel syndrome: a blinded placebo-controlled trial. World J Gastroenterol 2005; 11: 4040-4044.	Randomized controlled trial of acupuncture for IBS involving 60 IBS patients. Compared acupuncture with sham acupuncture. Patients in both groups improved, but no real difference was found between the two groups.

Lu B et al. A randomised controlled trial of acupuncture for irritable bowel syndrome. Program and abstracts of the 65th Annual Scientific Meeting of the American College of Gastroenterology; October 16-18, 2000, New York, NY. Poster 268, p.428	Randomized controlled trial of acupuncture for IBS involving 27 patients. Compared acupuncture with relaxation sessions. Found quality-of-life and gastrointestinal symptom scores improved equally in both groups. A significant reduction in abdominal pain was observed in both groups at the end of the trial, however, only in the acupuncture group did pain reduction persist at 4 weeks post trial. Reduced stress perception was also observed in acupuncture group, but not with relaxation.

Physiology studies (human and animal)

Xu GY et al. Electroacupuncture attenuates visceral hyperalgesia and inhibits the enhanced excitability of colon specific sensory neurons in a rat model of irritable bowel syndrome. Neurogastroenterol Motil. 2009 Dec;21(12):1302-e125	Electroacupuncture treatment for 40 min per day for 5 days produced a prolonged analgesic effect and normalized the enhanced excitability of colon-specific neurons in rats with induced chronic IBS. It is suggested that these effects may be mediated largely by endogenous opioid pathways.
Ma XP et al. Effect of electro-acupuncture on substance P, its receptor and corticotropin-releasing hormone in rats with irritable bowel syndrome. World J Gastroenterol. 2009 Nov 7;15(41):5211-7.	Rats with IBS given a 7-day course of electroacupuncture had significantly lowered visceral sensitivity, fewer mast cells, lower levels of corticotrophin releasing hormone in the hypothalamus and decreased expression of substance P in the colon, compared with control (no acupuncture) groups.
Tian SL et al. Repeated electro-acupuncture attenuates chronic visceral hypersensitivity and spinal cord NMDA receptor phosphorylation in a rat irritable bowel syndrome model. Life Sci. 2008 Aug 29;83(9-10):356-63	Repeated electroacupuncture significantly reduced chronic visceral hypersensitivity induced in young adult rats by neonatal colon irritation. This appeared to be correlated with the down-regulation of NMDA receptors in the spinal cord. The effect was not seen in sham control groups.
Chen J et al. Electroacupuncture improves impaired gastric motility and slow waves induced by rectal distension in dogs. Am J Physiol Gastrointest Liver Physiol. 2008 Sep;295(3):G614-20.	Experimental trial of effect of electroacupunture on gastric motility in dogs. Found that electroacupuncture restored impaired gastric motility induced by rectal distention, possibly by enhancing vagal nerve activity, mediated via the opioid pathway. Authors conclude electroacupuncture may have therapeutic potential for functional gastrointestinal disorders.
Tian XY et al. Electro-acupuncture attenuates stress-induced defecation in rats with chronic visceral hypersensitivity via serotonergic pathway. Brain Res. 2006 May 9;1088(1):101-8.	Experimental study of electroacupuncture for IBS in rats. Found acupuncture decreased sensitivity to mechanically induced rectal pain and reduced stress-induced defecation in rats with experimentally induced IBS.
Xing J et al. Transcutaneous electrical acustimulation can reduce visceral perception in patients with the irritable bowel syndrome: a pilot study. Altern Ther Health Med. 2004 Jan-Feb;10(1):38-42.	Experimental study of electroacupuncture for IBS involving 7 patients. Patients received either real or sham acupuncture while undergoing rectal distention using an inflatable balloon apparatus. Real acupuncture stimulation, but not sham stimulation, significantly increased the threshold of rectal sensation of gas, desire to defecate and pain, as compared to a control period. Authors conclude that acupuncture can reduce rectal sensitivity in IBS patients.

General review articles of acupuncture

Samuels N et al. Acupuncture for psychiatric illness: a literature review. Behav Med. 2008 Summer;34(2):55-64.	Literature review of acupuncture for psychiatric illness. Presents research which has found that acupuncture can affect the neuroendocrine system and hence regulate substances such as ACTH, beta-endorphins, serotonin and noradrenaline, that modulate mood and response to stress. Concludes that acupuncture can have positive effects on depression and anxiety.
Han JS. Acupuncture and endorphins. Neurosci Lett. 2004 May 6;361(1-3):258-61.	Literature review of studies relating to the release of endorphins by acupuncture
Pomeranz B. Scientific basis of acupuncture. In: Stux G, Pomeranz B, eds. Acupuncture Textbook and Atlas. Heidelberg: Springer-Verlag; 1987:1-18.	Needle activation of A delta and C afferent nerve fibres in muscle send signals to spinal cord, where dynorphin and enkephalins are released. Afferent pathways continue to midbrain, triggering excitatory and inhibitory mediators in spinal cord. Ensuing release of neurotransmitters serotonin and norepinephrine onto spinal cord leads to pain transmission being inhibited both pre- and postsynaptically in spinothalamic tract. Finally, these signals reach hypothalamus and pituitary, triggering release of adrenocorticotropic hormones and beta-endorphin.

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