



# HerbClip™

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**File: ■ Peppermint (*Mentha × piperita*, Lamiaceae)  
■ Irritable Bowel Syndrome**

**HC 031641-560**

**Date: January 13, 2017**

**RE: Clinical Trials Indicate Peppermint Oil May Provide Benefit for Irritable Bowel Syndrome**

Haber SL, El-Ibiary SY. Peppermint oil for treatment of irritable bowel syndrome. *Am J Health Syst Pharm.* January 2016;73(2):22, 24, 26, 28, 30-31.

Irritable bowel syndrome (IBS), a chronic gastrointestinal (GI) disorder, affects 5-15% of the world's population, reducing their quality of life. A lack of efficacious and acceptable medical treatments impels 20-50% of those with IBS to seek complementary therapies, including natural products.

Peppermint (*Mentha × piperita*, Lamiaceae) oil is historically used to treat GI complaints. Peppermint oil, which is obtained by steam distillation of the whole flowering herb, contains compounds including menthol, menthone, menthyl acetate, isomenthone, 1,8-cineole, limonene,  $\beta$ -myrcene, and carvone. Peppermint is an antispasmodic that has been shown to cause relaxation of intestinal muscle and the lower esophageal sphincter in vitro and in vivo. It is suggested to block calcium channels that affect smooth muscle. Reported antiemetic effects may be due in part to interactions with histamine, serotonin, and cholinergic receptors in the GI tract. Peppermint oil may have free radical scavenging activities that can help prevent GI ulcers. It may also inhibit enterocyte glucose uptake, increase bile solubility, reduce gallbladder contraction, and increase small intestine transit time.

Nine English-language, controlled, clinical studies of peppermint oil use in IBS were located through a database search. Two were not randomized controlled trials (RCTs) and were not reviewed for this article. Populations in the seven included RCTs were mostly female, consistent with IBS's greater prevalence in women. In general, most studies reported some improvement in IBS symptoms with use of peppermint oil compared to placebo and, in one case, a conventional pharmaceutical treatment (1-hyoscyamine, which caused adverse effects in most patients).

Adherence was poor in some trials, with some patients withdrawing due to adverse effects associated with peppermint oil, particularly perianal burning, heartburn, nausea, and vomiting. Heartburn seems to be largely avoidable by the use of enteric-coated capsules. However, enteric-coated peppermint products should not be used by patients

with achlorhydria and may increase likelihood of anal burning in patients with diarrhea and high intestinal motility.

The review notes several actual or hypothetical weaknesses in this body of research. All seven RCTs were eight or fewer weeks in duration and included relatively small numbers of patients. The authors note that none of the RCTs were conducted in North America, and suggest that because diet and stress contribute to IBS, results of studies may not be generalizable to patients in countries outside the study area. They further say that content of the preparations used is "indeterminate" because "peppermint oil is typically not regulated by medication safety agencies (including the [US] Food and Drug Administration [FDA])." However, they do not discuss the regulation of peppermint oil manufactured in the countries where studies were conducted (which are not specified) nor the adequacy of the characterization of the products used, some of which are indicated to be standardized commercial products. The authors acknowledge that multiple RCTs were excluded from this review because they were not published in English.

A 2012 guidance from the FDA regarding the design of clinical trials involving IBS should be considered in designing future studies of peppermint oil. While peppermint oil appears to be useful in some patients with IBS, especially those with abdominal pain or discomfort, more and larger trials are needed to better understand its effects and possible adverse effects or contraindications, especially in long-term use.

—*Mariann Garner-Wizard*

The American Botanical Council has chosen not to reprint the original article.

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