



AMERICAN
BOTANICAL
COUNCIL

Now in Our
20th Year

P.O. Box 144345 Austin, TX 78714-4345 ■ 512.926.4900 ■ Fax: 512.926.2345 ■ www.herbalgram.org

HerbClip™

Mariann Garner-Wizard
Jennifer Minigh, PhD

Shari Henson
Heather S Oliff, PhD

Brenda Milot, ELS
Marissa Oppel, MS

Executive Editor – Mark Blumenthal

Managing Editor – Lori Glenn

Consulting Editors – Dennis Awang, PhD, Francis Brinker, ND, Steven Foster, Roberta Lee, MD

Production – Cassandra Johnson, George Solis

FILE: ■ Peppermint (*Mentha x piperita*)

HC 060586-365

Date: November 25, 2008

RE: Systematic Review of Peppermint

Keifer (sic; Kiefer) D, Ulbricht C, Brams TR, et al. Peppermint (*Mentha x piperita*): An evidence-based systematic review by the natural standard research collaboration. *J Herbal Pharmacotherapy*. 2007; 7(2):91-143.

Peppermint (*Mentha x piperita*) is a perennial herb with a long history of use for digestive disorders. There is clinical and in vitro research supporting this use. Peppermint oil is from the above ground parts. The principal active components of peppermint oil are menthol, menthone, and menthyl acetate. Laboratory studies indicate that peppermint oil may have analgesic, anticancer, antimicrobial, antiparasitic, antitussive, gastrointestinal, and respiratory effects. This report is a systematic review of peppermint.

Electronic databases including AMED, CANCERLIT, CINAHL, CISCOP, EMBASE, Medline, HerbMed, and NAPRALERT were searched. The keywords included 56 different search words related to mint. Hand searches of the literature were also conducted. The studies were graded to reflect the level of available scientific evidence supporting the efficacy of a therapy for a specific indication. Grade A = strong evidence from greater than two properly randomized controlled trials (RCT) and one meta-analysis or many RCTs and laboratory studies. Grade B = good scientific evidence from 1-2 proper RCT, or one meta-analysis, or one clinical study and laboratory research. Grade C = unclear or conflicting scientific evidence from more than one small RCT without adequate size, quality, etc, or conflicting evidence from multiple RCTs, or one clinical report with no laboratory studies.

There were no indications rated Grade A. The following indications were rated a Grade B: colonic spasm (colonoscopy or barium enema), cough, dyspepsia, gastric spasm (endoscopy), irritable bowel syndrome, and tension headache (topical). The following indications were rated a Grade C: abdominal distention, asthma, esophageal spasm, nasal congestion, post-herpetic neuralgia, post-operative nausea (inhalation), stroke recovery specifically hemiplegic shoulder pain, and vigilance improvement in brain injury (aromatherapy).

Based on the evidence the authors conclude that there is insufficient evidence to determine the efficacy or recommend peppermint oil for colonic spasm during barium enemas or colonoscopies, cough management, dyspepsia (upper abdominal pain and bloating), gastric spasm during endoscopy, irritable bowel syndrome, tension headache, abdominal distention, esophageal spasm, intestinal spasm, nasal congestion, pre-herpetic neuralgia, post-operative nausea, stroke recovery-hemiplegic shoulder pain, tuberculosis, and vigilance improvement in brain injury.

Peppermint is generally regarded as safe when taken in small doses (up to 270 mg) and in an infusion. Peppermint oil is likely safe in children when used orally in amounts commonly found in food. It is possibly safe when used orally or topically at medicinal doses. Enteric-coated peppermint oil capsules are possibly safe when given to children older than 8 years and when used under medical supervision. Peppermint oil is possibly unsafe when used by patients with gastroesophageal reflux disease (GERD), hiatal hernia, or kidney stones. It is likely unsafe when topical menthol is used at excessive doses, as when it is used along with heat. Oral peppermint oil has caused tongue spasms, apnea (stop breathing), laryngeal and bronchial spasm, and acute respiratory distress/arrest in infants and small children. Peppermint oil is unlikely safe when used orally in pregnant women in large doses—it may induce menstruation. Peppermint oil should not be injected.

Adverse effects are rare but may include hypersensitivity reactions, contact dermatitis, heartburn, perianal burning, bradycardia, and muscle tremor when taken orally. Topical applications may cause skin rash and irritation. Peppermint oil may interact with topical 5-fluorouracil, antibacterials, antifungals antiparasitics, antitussives, benzoic acid, calcium channel blockers, cyclosporine, cytochrome P450 metabolized agents, oxytetracycline, and hypotensives. The report does not list specific drugs, just the aforementioned drug classes.

The US Pharmacopeia XVI dating to the 1960s defines peppermint oil as containing not less than 5% of the oil as esters, calculated as menthyl acetate, and not less than 50% of the total menthol content to be free menthol and menthol esters. Based on clinical trials and historical use the article lists the following doses for adults (>18 years).

Indication	Oral Dose
Colonic spasm	8 mL peppermint oil solution
Cough	75% menthol in eucalyptus oil
Digestive disorders	0.2-0.4 mL of peppermint oil 3x/day in dilute preparations
Esophageal spasm	5 drops of peppermint oil in 10 mL water
Gastric spasm	16 mL peppermint oil dissolved in hot water and infused intraluminally during upper endoscopy
Irritable bowel syndrome	1-2 enteric-coated capsules of Colpermin [®] (0.2-0.4 mL of peppermint oil or 187-374 mg of peppermint oil in a thixotropic gel) 3x/day 15-30

	min before meals or 180-200 mg enteric coated peppermint oil
Sore throat	Lozenges containing 2-10 mg peppermint oil
Vomiting	3-6 g of leaf and 5-15 g of tincture
	Topical Dose
Tension headache	A combination of eucalyptus and peppermint oil (19% in ethanol solution) applied to the temples on the onset of symptoms and applied hourly across the forehead and temples
Post-herpetic neuralgia	2-4 drops peppermint oil massaged in the skin 3-4x/day
	Inhalation
Congestion	3-4 drops added to hot water or 62.5 mg menthol in 1 mL petroleum applied and inhaled

—*Heather S. Oliff, PhD*

Enclosure: Referenced article reprinted with permission from Haworth Press.

The American Botanical Council provides this review as an educational service. By providing this service, ABC does not warrant that the data is accurate and correct, nor does distribution of the article constitute any endorsement of the information contained or of the views of the authors.

ABC does not authorize the copying or use of the original articles. Reproduction of the reviews is allowed on a limited basis for students, colleagues, employees and/or members. Other uses and distribution require prior approval from ABC.