

The Longwood Herbal Task Force
(<http://www.mcp.edu/herbal/>) and
The Center for Holistic Pediatric Education and Research
(<http://www.childrenshospital.org/holistic/>)

Clinician Information Summary

PEPPERMINT

(*Mentha piperita*)

SUMMARY

Peppermint is widely used in food, cosmetics and medicines. Clinically, it has proven helpful in symptomatic relief of the common cold. It may decrease symptoms of digestive disorders such as dyspepsia and irritable bowel syndrome, although more research is needed. It is also used topically as an analgesic and to treat headaches. The FDA recognizes it as generally safe; however, caution should also be used in patients with reflux and heartburn. Menthol products should not be used directly under the nose of small children and infants due to the risk of apnea. Peppermint tea has few side effects; peppermint oil may cause heartburn and perianal irritation.

POPULAR USES: Decongestant and antitussive, GI antispasmodic. Used to treat colds and coughs, colic, flatulence, indigestion, nausea, irritable bowel syndrome, inflammatory bowel disease and biliary tract disorders.

ACTIVE CONSTITUENTS: Menthol, menthone, menthyl acetate, neomenthol, isomenthone, menthofuran, limonene, pulegone, others.

SCIENTIFIC DATA

In vitro: Peppermint oil blocks smooth muscle contractions induced by serotonin and substance P. Peppermint and menthol have significant antiviral activity and moderate antibacterial activity against both Gram-positive and Gram-negative bacteria and are fungicidal against *Candida albicans*, *Aspergillus albus* and other fungi.

In animals: In animals, pure menthol has a vasodilatory effect on skin and blood vessels, blocks neuromuscular transmission, and causes reflex inhibition of respiration. Peppermint oil

(continued)

inhibits gastrointestinal smooth muscle spasm and resolves morphine-induced spasm of the sphincter of Oddi. Peppermint enhances the production of bile.

In humans: Peppermint and menthol have a *subjective* nasal decongestant effect but no *objective* decongestant effect on airflow. Some studies support peppermint's use in suppressing expectorant-induced coughs, but not coughs due to asthma. Two placebo controlled trials support peppermint's use to enhance gastric emptying and reduce nausea. Studies support peppermint's use as a GI spasmolytic. Five of eight randomized controlled trials of enteric-coated peppermint oil capsules for irritable bowel syndrome (IBS) showed a positive effect on symptoms, and three studies showed no effect. In two double blind randomized controlled trails topical peppermint oil reduced the intensity of headache pain. In newborn premature infants, inhalation of menthol vapors can cause a decreased respiratory rate or brief periods of apnea.

TOXICITY AND SIDE EFFECTS

Side effects: Peppermint is considered on the FDA's list of herbs generally recognized as safe (GRAS) when used in food or as a beverage. Adverse reactions to enteric coated peppermint oil capsules are rare but can include hypersensitivity reaction, contact dermatitis, abdominal pain, heartburn, perianal burning, bradycardia and muscle tremor. Inhalation of menthol can cause apnea and laryngoconstriction in newborn infants and susceptible individuals. Excessive inhalation of a mentholated preparation has caused reversible nausea, anorexia, cardiac problems, ataxia, and other CNS problems, which are thought to be due to the presence of volatile oils.

Interactions with other medications: None known.

Contraindications: Most herbalists suggest that peppermint oil is contraindicated in obstruction of the bile ducts, gallbladder inflammation, and severe liver damage. Caution is recommended in patients with hiatal hernia or GI reflux.

Pregnancy and lactation: No data evaluating safety.

Pediatric use: Direct application of peppermint oil or menthol to the nasal area of infants should be avoided because there is a risk of laryngeal and bronchial spasms, acute

(continued)

respiratory distress with cyanosis and respiratory arrest.

ADDITIONAL RESOURCES

- Peppermint Complete Monograph: <http://www.mcp.edu/herbal/peppermint/peppermint.pdf>
- Peppermint Patient Fact Sheet: <http://www.mcp.edu/herbal/peppermint/peppermint.ph.pdf>
- OnHealth.com: Monographs based on the German Commission E monograph:
Peppermint Leaf: <http://onhealth.webmd.com/alternative/resource/herbs/item,16039.asp>
Peppermint Oil: <http://onhealth.webmd.com/alternative/resource/herbs/item,77175.asp>