

# Does Peppermint Oil Work for Irritable Bowel Syndrome?

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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## STORY AT-A-GLANCE

- › The International Foundation for Gastrointestinal Disorders lists peppermint as a treatment option. Data show the number needed to treat (NNT) to prevent one patient from having persistent problems is four for abdominal pain and three for global symptoms
- › To put this in perspective, statins, the most commonly prescribed medication, must be given to 217 people for one person to benefit (0.5%) but 4.8% of people taking the pills will experience pain from muscle damage; one expert believes for a drug to be effective the NNT must be five or less
- › Peppermint may also help relieve pain, improve memory, ease respiratory problems, enhance skin and hair health, and ease the symptoms of herpes simplex. Peppermint may be more effective than chlorhexidine to prevent the development of biofilm that can lead to cavities
- › Most adults can take peppermint oil in low amounts, but it can trigger side effects in people with sensitivities. Some people should avoid peppermint, such as pregnant and nursing women, young children, diabetics and people with gastroesophageal reflux disease (GERD), hiatal hernia, gallstones or liver disease

The International Foundation for Gastrointestinal Disorders<sup>1</sup> estimates up to 10% of the population worldwide has irritable bowel syndrome (IBS). Yet, as Dr. Michael Greger notes in this short video, a 2005 study<sup>2</sup> revealed that 76.6% of people in the U.S. with IBS are undiagnosed. This means the number of people with IBS is likely much higher.

It is important to know that ulcerative colitis and Crohn's disease are different types of inflammatory bowel disease. While the terms inflammatory bowel disease and irritable bowel syndrome are sometimes used interchangeably, they are separate conditions that require different treatments. Crohn's disease and ulcerative colitis are forms of inflammatory bowel disease but not IBS.

IBS is a chronic condition that changes your bowel habits and may trigger pain, cramping, changes in consistency and frequency of bowel movements and bloating.<sup>3</sup> As Greger notes<sup>4</sup> from a paper<sup>5</sup> published in the Journal of Clinical Gastroenterology, doctors underestimate the impact of IBS on quality of life.

When measured, health-related quality of life was worse in people with IBS than in those with gastroesophageal reflux disease, diabetes and end-stage renal disease. "So, the first step toward successful treatment is for doctors to acknowledge the condition and not dismiss the patient as just hysterical or something," says Greger.<sup>6</sup>

## **IBS: Unmet Therapeutic Need**

While many people do not voluntarily discuss their bowel habits with their physician, Greger notes that another reason people may not seek medical treatment is the lack of effective options from Western medicine physicians. There is no cure for IBS. The only pharmaceutical options available are drugs that reduce the symptoms.

Yet, as Greger notes,<sup>7</sup> drugs that are typically used to treat IBS have significant side effects. Antispasmodic drugs can lead to dizziness, confusion, blurred vision, an increased risk of falling and dry mouth. Other medications on the market used to treat IBS include:<sup>8</sup>

- **Laxatives** — IBS can cause constipation, for which some physicians prescribe laxatives in the form of stimulants such as Dulcolax, milk of magnesia and osmotic medications such as Miralax. Only Miralax, also known as polyethylene glycol 3350, has been evaluated in clinical trials for IBS.

While Miralax improves stool texture and frequency, it does not improve pain or discomfort and many people report an increase in those abdominal symptoms. Side effects for Miralax include those commonly associated with IBS, such as diarrhea, cramping, bloating and nausea.

- **Antidiarrheal** – These drugs slow transit time in the GI tract and include loperamide (Imodium), which is available over the counter. Side effects include abdominal pain and severe constipation.
- **Secretagogues/Prosecretory agents** – This class of drug increases fluid secretion and movement in the GI tract. Lubiprostone (Amitiza), currently approved for women only, activates chloride channels and can lead to nausea and diarrhea. Linaclotide (Linzess) and Plecanatide (Trulance) increase gut movement and the most common side effect is diarrhea.
- **Retainagogues** – These medications block the absorption of sodium in the GI tract, which increases water retention in the intestines, thus speeding transit time. The first medication approved for use in the U.S. in this class was Tenapanor (Ibsrela), which became commercially available in April 2022. Again, like IBS, the most common side effects<sup>9</sup> include gas, diarrhea, dizziness and a feeling of pressure in the abdomen.

Other medications used include tricyclic antidepressants and selective serotonin reuptake inhibitors. Both classes of drugs come with a long list of side effects, including, as Gregor notes,<sup>10</sup> sexual dysfunction in over 70% of people who take Prozac, Celexa or Paxil.<sup>11</sup>

In addition to the side effects, many of these drugs are also expensive. For example, Lubiprostone can cost \$186.60 to \$374.28 per month, according to WellRx.<sup>12</sup> A one-month supply of tenapanor can cost \$1,801.<sup>13</sup>

## Peppermint May Calm IBS Symptoms

The International Foundation for Gastrointestinal Disorders<sup>14</sup> lists peppermint as a treatment option since it acts as an antispasmodic causing smooth muscle relaxation with anti-inflammatory and antiserotonergic properties. A 2014 systematic review and meta-analysis of the literature<sup>15</sup> support this conclusion.

The study evaluated 726 participants across nine studies and found peppermint oil was “... significantly superior to placebo for global improvement of IBS symptoms ... and improvement in abdominal pain.”

As Greger notes<sup>16</sup> there were few adverse events in this study and most were mild and transient. They included heartburn, dry mouth, peppermint taste or smell, rash, headache, increased appetite and a cold sensation around the perianal area.

When researchers analyzed studies that put peppermint in a head-to-head comparison against drugs, the side effects of the medication were so unbearable for some participants that they dropped out of the study suggesting that it may be reasonable for clinicians to consider peppermint oil as a better tolerated anti-spasmodic in patients with IBS.

Menthol is a constituent of peppermint oil, and both have been shown to relax smooth and cardiac muscle.<sup>17</sup> The data demonstrate that peppermint oil and menthol have calcium channel-blocking properties that may contribute to smooth muscle relaxation, which may explain the antispasmodic effect in people with IBS.

A 2019 meta-analysis<sup>18</sup> of pooled clinical data drawn from several databases including Cochrane Central Register of Controlled Trials and ClinicalTrials.gov, evaluated 12 trials with 835 total participants. The researchers wrote:

*“The number needed to treat with PO [peppermint oil] to prevent one patient from having persistent symptoms was three for global symptoms and four for abdominal pain. In the most comprehensive meta-analysis to date, PO was shown to be a safe and effective therapy for pain and global symptoms in adults with IBS.”*

To put this measurement in perspective, statin medications were one of the most commonly prescribed drugs in 2018<sup>19</sup> and Lipitor (atorvastatin) was the No. 1 drug prescribed in November 2021.<sup>20</sup> When measuring the number needed to treat (NNT) for statin medications,<sup>21</sup> the data reveals 217 people must take the drug for one person to avoid a nonfatal heart attack, while 1 in every 21 will have muscle damage.

Said another way, 0.5% will avoid a nonfatal heart attack and 4.8% will have pain from muscle damage. In the study, when statins were given for five years in people with known heart disease,<sup>22</sup> 1 in every 83 persons was helped. When the data is expressed as a percentage, 96% saw no benefit, 2% developed diabetes and 10% experienced muscle damage.

Biostatistician George Tomlinson from the University of Toronto is an expert on numbers needed to treat. StatNews reported<sup>23</sup> that in a 2006 paper,<sup>24</sup> Tomlinson and his colleagues concluded that “an NNT of five or less was probably associated with a meaningful health benefit,” while “an NNT of 15 or more was quite certain to be associated with at most a small net health benefit.”

## **Peppermint Impacts Gastrointestinal Conditions and More**

Peppermint oil is used in aromatherapy – the practice of using essential oils to support health<sup>25</sup> – where it can be effective in relieving pain and neuralgia,<sup>26</sup> nausea,<sup>27</sup> and in improving memory and raising alertness.<sup>28</sup> Data also show peppermint oil exhibits antiviral, antimicrobial, antifungal, antioxidant, analgesic, radioprotective and anti-edema properties,<sup>29</sup> and may:

**Provide relief for stomach problems** – Peppermint oil helps reduce colonic spasms,<sup>30</sup> eases pelvic pain,<sup>31</sup> speeds gastric emptying<sup>32</sup> and provides relief for stomach cramps and flatulence.<sup>33</sup>

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**Ease respiratory problems** – Peppermint oil can be used as an expectorant and decongestant.<sup>34</sup>

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**Relieve pain** — Peppermint oil may help relieve sore muscles when added to a massage oil blend or to bathwater. Dabbing a few drops on your wrist or inhaling the aroma can ease headaches. You also can massage the oil onto your temples. In a triple-blind, placebo-controlled study,<sup>35</sup> data showed topical application on the forehead using 10% menthol was an “efficacious, safe and tolerable therapeutic option for the abortive treatment of migraine.”

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**Reduce hot flashes from cancer-related treatments** — Peppermint oil may help address chemotherapy-induced nausea. It may also help treat hot flashes in women receiving treatment for breast cancer.<sup>36</sup>

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**Help ease herpes infections** — Peppermint oil can pass through the skin, making it potentially useful against recurrent herpes infection and is active against drug-resistant herpes.<sup>37</sup>

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**Enhance hair and skin health** — Mixing peppermint oil into massage oils, shampoos and lotions can help cool skin and eliminate dandruff or lice from your scalp.<sup>38</sup> It also contributes to hair growth.<sup>39</sup>

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**Improve dental health** — Peppermint oil extract may be more effective than the mouthwash chemical chlorhexidine in preventing the development of biofilm that can lead to cavities<sup>40</sup> and bad breath.

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**Provide comfort** — Peppermint oil is energizing and used to help manage stress and treat nervous disorders and mental fatigue with a similar effect to psychostimulants.<sup>41</sup>

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## Side Effects of Using Peppermint Oil

Greger recognizes the need for physicians to have effective treatments that are not cost prohibitive and do not have a laundry list of side effects.<sup>42</sup>

*“We doctors need effective treatments that are cheap, safe and available. This is particularly relevant now as newer and more expensive drugs have either failed to work or been withdrawn from the market owing to concerns about serious adverse events.*

*Just like it may be a good idea to only eat foods with ingredients you can pronounce, it may be better to try some mint before novel pharmacological approaches, such as the new dual mu-opioid agonist-antagonist drug with a name like JNJ-27018966.”*

Most adults can take peppermint oil in low amounts, but it can trigger side effects in people with sensitivities. It is important for people with the following conditions to either **avoid using this essential oil** or to use it carefully only with the help of a health care professional:<sup>43,44</sup>

Pregnant and nursing women	Young children
Diabetics	Gastroesophageal reflux disease (GERD)
Hiatal hernia	Gallstones or liver disease

If you are experiencing insomnia or other sleep disorders, consider testing peppermint. Research is not conclusive as it has shown peppermint could interfere with sleep.<sup>45</sup> On the other hand, it also has improved sleep quality in cardiac patients.<sup>46</sup> While peppermint does offer profound benefits, I recommend speaking to a health care provider before using it for therapeutic applications.

Peppermint can trigger side effects in people that include reactions like skin rashes, slowed heart rate and lowered systolic blood pressure,<sup>47</sup> heartburn and headache. When taken in large doses it can lead to seizures, interaction with prescription medications and intense headaches.<sup>48</sup>

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