Ginger

Zingiber officinale

Principal Proposed Uses
• Morning Sickness in Pregnancy; Motion Sickness; Postsurgical Nausea
Other Proposed Uses
• Atherosclerosis; High Cholesterol; Migraine Headaches; Osteoarthritis; Rheumatoid Arthritis

Native to southern Asia, ginger is a 2- to 4-foot-long perennial that produces grass-like leaves up to a foot long and almost an inch wide. Although it’s called ginger root in the grocery store, the part of the herb used is actually the rhizome, the underground stem of the plant, with its bark-like outer covering scraped off.

Ginger has been used as food and medicine for millennia. Arabian traders carried ginger root from China and India to be used as a food spice in ancient Greece and Rome, and tax records from the second century AD show that ginger was a delightful source of revenue to the Roman treasury.

Chinese medical texts from the fourth century BC suggest that ginger is effective in treating nausea, diarrhea, stomachaches, cholera, toothaches, bleeding, and rheumatism. Ginger was later used by Chinese herbalists to treat a variety of respiratory conditions, including coughs and the early stages of colds.

Ginger's modern use dates back to the early 1980s, when a scientist named D. Mowrey noticed that ginger-filled capsules reduced his nausea during an episode of flu. Inspired by this, he performed the first double-blind study of ginger. Germany's Commission E subsequently approved ginger as a treatment for indigestion and motion sickness.

One of the most prevalent ingredients in fresh ginger is the pungent substance gingerol. However, when ginger is dried and stored, its gingerol rapidly converts to the substances shogaol and zingerone. If any of these substances has medicinal effects remains unknown.

What Is Ginger Used for Today?

Some evidence suggests that ginger may be at least slightly helpful for the prevention and treatment of various forms of nausea, including motion sickness, the nausea and vomiting of pregnancy (morning sickness), and postsurgical nausea.

Note: If you are pregnant or undergoing surgery, do not self-treat with ginger except under physician supervision.

Scant preliminary evidence suggests that ginger might be helpful for osteoarthritis. And, one small study suggests it may beneficial for high cholesterol.43

Ginger has been suggested as a treatment for numerous other conditions, including atherosclerosis, migraine headaches, rheumatoid arthritis, ulcers, depression, and impotence. However, there is negligible evidence for
In traditional Chinese medicine, hot ginger tea taken at the first sign of a cold is believed to offer the possibility of averting the infection. However, once more, there is no scientific evidence for this use.

What Is the Scientific Evidence for Ginger?

Nausea

The evidence for ginger's effectiveness in various forms of nausea remains mixed. It has been suggested that, in some negative studies, poor-quality ginger powder might have been used. In general, while most antinausea drugs influence the brain and the inner ear, ginger appears to act directly on the stomach.

Motion Sickness

Ginger has shown inconsistent promise for treatment of motion sickness. A double-blind, placebo-controlled study of 79 Swedish naval cadets at sea found that 1 g of ginger could decrease vomiting and cold sweating, but without significantly decreasing nausea and vertigo. Benefits were also seen in a double-blind study of 36 individuals given ginger, dimenhydrinate, or placebo. However, a 1984 study funded by NASA using intentionally stimulated motion sickness found that ginger was not any more effective than placebo. Two other small studies have also failed to find any benefit. The reason for the discrepancy may lie in the type of ginger used, or the severity of the stimulant used to bring on motion sickness.

Nausea and Vomiting of Pregnancy

Four double-blind, placebo-controlled studies enrolling a total of 246 women found ginger more effective than placebo for treatment of morning sickness. For example, a double-blind, placebo-controlled trial of 70 pregnant women evaluated the effectiveness of ginger for morning sickness. Participants received either placebo or 250 mg of powdered ginger three times daily for a period of four days. The results showed that ginger significantly reduced nausea and vomiting. No significant side effects occurred.

At least 3 studies have compared ginger to vitamin B₆, a commonly recommended treatment for morning sickness. Two studies found them to be equally beneficial while the third found ginger to be somewhat better. But, since the effectiveness of vitamin B₆ for morning sickness is not solidly established—the evidence rests largely on one fairly old study — these findings are of questionable value.

Note: Despite its use in these studies, ginger has not been proven safe for pregnant women.

Postoperative Nausea

Although there have been some positive studies, on balance, the evidence regarding ginger for reducing nausea and vomiting following surgery is discouraging. A double-blind British study compared the effects of ginger, placebo, and metoclopramide (Reglan) in the treatment of nausea following gynecological surgery. The results in 60 women indicated that both treatments produced similar benefits as compared to placebo.

A similar British study followed 120 women receiving elective laparoscopic gynecological surgery. Whereas nausea and vomiting developed in 41% of the participants given placebo, in the groups treated with ginger or
metoclopramide these symptoms developed in only 21% and 27%, respectively. Benefits were also seen in a double-blind study of 80 people.\textsuperscript{27} A study of 60 people found marginally positive results.\textsuperscript{31}

However, a double-blind study of 108 people undergoing similar surgery found no benefit with ginger as compared to placebo.\textsuperscript{16} Negative results were also seen in another recent study of 120 women,\textsuperscript{37} and another of 180 women.\textsuperscript{37}

The bottom line: If ginger is effective for post-surgical nausea at all, the effect must be very slight.\textsuperscript{30}

Other Forms of Nausea

One study failed to find ginger helpful for reducing nausea caused by the cancer chemotherapy drug cisplatin.\textsuperscript{34} In a second study, ginger did not add to the effectiveness of standard medications to treat chemotherapy-induced nausea and vomiting.\textsuperscript{31}

Osteoarthritis

A large double-blind study (more than 250 participants) found that a combination of ginger and another Asian spice called galanga (Alpinia galanga) can significantly improve arthritis symptoms.\textsuperscript{24} This study was widely publicized as proving that ginger is effective for osteoarthritis. However, the study design makes it impossible to draw any conclusions on the effectiveness of the ginger component of the mixture. Ginger alone has only been tested in two very small double-blind studies, and they had contradictory results.\textsuperscript{132}

Migraines

Some migraine sufferers experience a mild headache before the onset of their full blown migraine. A randomized trial involving 60 such patients found that a sublingual (placed under the tongue for rapid absorption) combination of feverfew and ginger taken at the onset of this early headache helped to reduce or eliminate pain for at least 2 hours.\textsuperscript{45}

Dosage

For most purposes, the standard dosage of powdered ginger is 1 to 4 g daily, divided into 2 to 4 doses per day.

To prevent motion sickness, it may be best to begin treatment 1 or 2 days before the trip and continue it throughout the period of travel.

Safety Issues

Ginger is on the FDA’s GRAS (generally recognized as safe) list as a food, and the treatment dosages of ginger are comparable to dietary usages. No significant side effects have been observed.

Like onions and garlic, extracts of ginger inhibit blood coagulation in test tube experiments.\textsuperscript{18-20} European studies with actual oral ginger taken alone in normal quantities have not found any significant effect on blood coagulation.\textsuperscript{21-23} but it is still theoretically possible that a very weak anticoagulant could amplify the effects of drugs that have a similar effect, such as warfarin (Coumadin), heparin, clopidogrel (Plavix), ticlopidine Ticlid, pentoxifylline Trental, and aspirin. One fairly solid case report appears to substantiate these theoretical concerns: Use of a ginger product markedly (and dangerously) increased the effect of an anticoagulant drug closely related to Coumadin.\textsuperscript{33} However, a double-blind study failed to find any interaction between ginger and Coumadin, leaving the truth regarding this potential risk unclear.\textsuperscript{35}
The maximum safe doses of ginger for pregnant or nursing women, young children, or individuals with severe liver or kidney disease has not been established.

### Interactions You Should Know About

If you are taking:

- Strong blood-thinning drugs such as warfarin (Coumadin), heparin, clopidogrel (Plavix), ticlopidine (Ticlid), pentoxifylline (Trental), or even aspirin: Ginger might possibly increase the risk of bleeding problems.

### References [+]


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