

NUTRITION

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8 Surprising Health Benefits of Cloves



Medically reviewed by Amy Richter, RD — Written by Rachael Ajmera, MS, RD and Alina Sharon — Updated on March 4, 2024

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Cloves are a versatile spice that adds flavor while also providing health benefits. They are high in antioxidants, may help regulate blood sugar, kill bacteria, and more.

Cloves are the flower buds of the clove tree, an evergreen also known as *Syzygium aromaticum*.

Found in both whole and ground forms, this versatile spice can be used to season pot roasts, add flavor to hot beverages, and bring spicy warmth to cookies and cakes.

You may know cloves as one of the main ingredients in gingerbread baked goods or a staple spice in Indian cuisine.

Cloves are best known as a sweet and aromatic spice, but they have also been used in traditional medicine.

In fact, [research](#) suggests that the compounds in cloves may have several health benefits, including supporting liver health and helping stabilize blood sugar levels.

This article reviews 8 of the most impressive health benefits of eating cloves.



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1. Contain important nutrients

Cloves contain fiber, vitamins, and minerals, so using whole or ground cloves to add flavor to your food can provide some important nutrients.

One teaspoon ² (tsp) (2 grams (g)) of ground cloves contains:

- **Calories:** 6
- **Carbs:** 1 g
- **Fiber:** 1 g
- **Manganese:** 55% of the Daily Value (DV)
- **Vitamin K:** 2% of the DV

Manganese is an [essential mineral](#) ³ for maintaining brain function and building strong bones.

Apart from being a rich source of manganese, cloves are only used in small amounts and do not provide significant amounts of nutrients.

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2. High in antioxidants

In addition to containing several important vitamins and minerals, cloves are [rich in antioxidants](#).

[Antioxidants](#) are compounds that reduce [oxidative stress](#), which can contribute to the development of chronic disease.

Cloves also contain a compound called eugenol, which has been shown to act as a natural antioxidant. Therefore, including cloves in your diet, along with other antioxidant-rich foods, can help improve your overall health.

3. May improve liver health

A [2022 animal study](#) found that clove extract improved liver damage caused by the toxic substance thioacetamide. In particular, the compound eugenol [may be](#) especially beneficial for the liver.

However, there isn't enough research showing the benefit of cloves for liver health in humans, and high doses can actually [damage](#) the liver.

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4. May help protect against cancer

Some [research](#) suggests that the clove oil might help protect against cancer.

Specifically, eugenol [has been shown](#) to have anticancer properties. Specifically, test-tube [research](#) suggests eugenol promotes cell death in breast cancer cells.

However, as stated, eugenol is toxic in high amounts, and [overdosing on clove oil](#) may cause liver damage, especially in children. Further research is needed to determine how lower amounts may affect humans.

5. Can kill bacteria

Cloves [have been shown](#) to have antimicrobial properties, meaning they can help stop the growth of microorganisms like bacteria.

What's more, in combination with regular brushing and proper oral hygiene, the antibacterial effects of cloves [may even benefit](#) your [oral health](#).

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6. May help regulate blood sugar

The compounds found in cloves may help keep blood sugar under control. For example, in a [2019 study](#), people with and without prediabetes who took 250 milligrams (mg) of clove extract daily for 30 days showed significantly less blood glucose after meals.

In another animal study, nigrin, a compound found in cloves, [was found](#) to increase the uptake of sugar from the blood into cells, increase the secretion of insulin, and improve the function of cells that produce [insulin](#) in mice.

In combination with a balanced diet, cloves may help keep your blood sugar levels in check, though more research on humans is needed to confirm this.

7. May promote bone health

Low bone mass is a condition that affects an estimated [43 million Americans](#), according to the most recent estimates from 2014.

It can lead to the development of [osteoporosis](#), which may increase the risk of breaks and fractures.

Animal research suggests that eugenol [may help](#) improve bone mass. In addition, cloves contain manganese, which is involved in the formation of bone and is incredibly important to [bone health](#).

That said, more research is needed to determine how cloves may affect bone in humans.

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8. May reduce stomach ulcers

Some [animal research](#) indicates that eugenol could help treat stomach ulcers.

Also known as peptic ulcers, stomach ulcers are painful sores that form in the lining of the stomach, duodenum, or esophagus.

[Test tube research](#) also suggests that clove oil may also have an effect against *Helicobacter pylori* (*H. Pylori*), a bacteria that can trigger stomach problems such as ulcers and even cancer.

Though the anti-ulcer effects of cloves and their compounds may be promising, further studies are needed on their effects in humans.

What are the side effects of clove?

These are the things to keep in mind in terms of the safety of clove:

- **Eating clove:** Eating small amounts is not likely to cause you harm. In fact, The [Food and Drug Administration \(FDA\)](#) has approved clove buds and clove oil as Generally Recognized as Safe (GRAS) for use as an additive in food. That said, there isn't enough evidence on the effect of ingesting clove in large amounts, especially for people who are pregnant or nursing.

Stay on the safe side and stick to the amount recommended in the recipe.

- **Ingestion of clove oil:** While both clove and clove oil contain eugenol, the compound is in **much higher concentrations** when clove is distilled into oil. For this reason, clove oil is unsafe to take by mouth, especially for children. Even small amounts of clove oil can cause severe side effects such as seizures, liver damage, and fluid imbalances. It can also lead to bleeding in people with bleeding disorders or during surgery.
- **Topical:** Clove oil or cream from clove flowers is **generally safe** for skin application. However, using clove oil on the gums can lead to irritation and damage.
- **Drug interactions:** Be careful if you're taking any medications to manage blood clotting or manage your blood sugar, such as for diabetes, as the eugenol in clove **may interfere** with these drugs.

What is the best way to take cloves?

When it comes to clove oil, the **National Association for Holistic Aromatherapy (NAHA)** suggests the following:

- **Spray or diffuser:** Mix 10-15 drops per ounce of water
- **Topical:** Mix 10-15 drops into a carrier oil like coconut oil. Use less if you have sensitive skin.
- **Dental:** Dab a cotton ball into the topical mixture and apply to the sore tooth, taking care not to touch your gums.

Learn more: [What You Need to Know About Clove Essential Oil](#).

In food

As with many healthy foods, cloves are most effective when included as part of a healthy and balanced diet. Try integrating a few servings of cloves per week into your meals.

You can easily incorporate ground cloves into many dishes. They'll bring a warm, distinctive flavor to desserts, curries, or chutneys.

Here are some examples of recipes using cloves:

- Icelandic breaded lamb chops with spiced red cabbage
- chorizo and brandy chicken

- [pumpkin soup](#)
- [sweetcorn fritters with homemade ketchup](#)
- [mulled wine baked fruit](#)

What are the benefits of boiling and drinking cloves?

Another way to consume clove is to simmer whole cloves in boiling water for 5–10 minutes to make a soothing cup of clove tea.

Clove has also [traditionally been used](#) to relieve nausea and to [help reduce](#) symptoms of respiratory infections or asthma, though more studies on humans and animals are needed to verify these effects.

The bottom line

The clove tree produces small flower buds that are commonly known as cloves. These buds can be found in whole or ground form and can be used in a variety of ways in your cooking

While they are most famous for their sweet and fragrant taste, cloves have also been utilized in traditional medicinal practices

Cloves may have various potential health benefits, including keeping blood sugar in check and helping block the growth of bacteria.

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Our experts continually monitor the health and wellness space, and we update our articles when new information becomes available.

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