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Flu & Colds

What's the Bottom Line?

What do we know about the effectiveness of complementary approaches for flu and colds?

- No complementary health approach has been shown to be helpful for the **flu**.
- For **colds**:
 - Complementary approaches that have shown some promise include **oral zinc products**, **rinsing the nose and sinuses** (with a neti pot or other device), **honey** (as a nighttime cough remedy for children), **vitamin C** (for people under severe physical stress), **probiotics**, and **meditation**.
 - Approaches for which the evidence is conflicting, inadequate, or mostly negative include **vitamin C** (for most people), **echinacea**, **garlic**, and **American ginseng**.

What do we know about the safety of complementary approaches for colds and flu?

- People can get severe infections if they use neti pots or other nasal rinsing devices improperly. **Tap water isn't safe for use as a nasal rinse unless it has been filtered, treated, or processed in specific ways.**
 - Zinc products used in the nose (such as nasal gels and swabs) have been linked to a long-lasting or even permanent **loss of the sense of smell**.
 - Using a dietary supplement to prevent colds often involves taking it for long periods of time. However, little is known about the long-term safety of some dietary supplements studied for prevention of colds, such as **American ginseng** and **probiotics**.
 - Complementary approaches that are safe for some people may not be safe for others. Your age, health, special circumstances (such as pregnancy), and medicines or supplements that you take may affect the safety of complementary approaches.
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Flu and Colds

Some Basics About Flu and Colds

Each year, Americans get more than 1 billion colds, and between 5 and 20 percent of Americans get the flu. The two diseases have some symptoms in common, and both are caused by viruses. However, they are different conditions, and the flu is more severe. Unlike the flu, colds generally don't cause serious complications, such as pneumonia, or lead to hospitalization.

No vaccine can protect you against the common cold, but vaccines can protect you against the flu. Everyone over the age of 6 months should be vaccinated against the flu each year. **Vaccination is the best protection against getting the flu.**

Prescription antiviral drugs may be used to treat the flu in people who are very ill or who are at high risk of flu complications. They're not a substitute for getting vaccinated. Vaccination is the first line of defense against the flu; antivirals are the second. If you think you've caught the flu, you may want to check with your health care provider to see whether antiviral medicine is appropriate for you. Call promptly. The drugs work best if they're used early in the illness.

To find out more about flu and colds, visit the National Institute of Allergy and Infectious Diseases Web site at <http://www.niaid.nih.gov>.

What the Science Says About Complementary Health Approaches for the Flu

No complementary approach has been shown to prevent the flu or relieve flu symptoms.

Complementary approaches that have been studied for the flu include the following. In all instances, there's not enough evidence to show whether the approach is helpful.

- American ginseng
- Chinese herbal medicines
- Echinacea
- Elderberry
- Green tea
- Oscillocoquinum
- Vitamin C
- Vitamin D

What the Science Says About Complementary Health Approaches for Colds

The following complementary health approaches have been studied for colds:

— American Ginseng

- Several studies have evaluated the use of American ginseng (*Panax quinquefolius*) to prevent colds. A 2011 evaluation of these studies concluded that the herb has not been shown to reduce the number of colds that people catch, although it may shorten the length of colds. The researchers who conducted the evaluation concluded that there was insufficient evidence to support the use of American ginseng for preventing colds.

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- Taking American ginseng in an effort to prevent colds means taking it for prolonged periods of time. However, little is known about the herb's long-term safety. American ginseng may interact with the anticoagulant (blood thinning) drug warfarin.

— Echinacea

- At least 24 studies have tested echinacea to see whether it can prevent colds or relieve cold symptoms. A comprehensive 2014 assessment of this research concluded that echinacea hasn't been convincingly shown to be beneficial. However, at least some echinacea products might have a weak effect.
- One reason why it's hard to reach definite conclusions about this herb is that echinacea products vary greatly. They may contain different species (types) of the plant and be made from different plant parts (the above-ground parts, the root, or both). They also may be manufactured in different ways, and some products contain other ingredients in addition to echinacea. Research findings on one echinacea product may not apply to other products.
- Few side effects have been reported in studies of echinacea. However, some people are allergic to this herb, and in one study in children, taking echinacea was linked to an increase in rashes.
- More information on echinacea is available at nccih.nih.gov/health/echinacea.

— Garlic

- A 2014 evaluation of the research on garlic concluded that there isn't enough evidence to show whether this herb can help prevent colds or relieve their symptoms.
- Garlic can cause bad breath, body odor, and other side effects. Because garlic may interact with anticoagulant drugs (blood thinners), people who take these drugs should consult their health care providers before taking garlic.
- More information on garlic is available at nccih.nih.gov/health/garlic.

— Honey

- Honey's traditional reputation as a cough remedy has some science to back it up. A small amount of research suggests that honey may help to decrease nighttime coughing in children.
- Honey should never be given to infants under the age of 1 year because it may contain spores of the bacterium that causes infant botulism. Honey is considered safe for older children.

— Meditation

- Reducing stress and improving general health may protect against colds and other respiratory infections. In a 2012 study funded by the National Center for Complementary and Integrative Health (NCCIH), adults aged 50 and older were randomly assigned to training in mindfulness meditation, which can reduce stress; an exercise training program, which may improve physical health; or a control group that didn't receive any intervention. The study participants kept track of their illnesses during the cold and flu season. People in the meditation group had shorter and less severe acute respiratory infections (most of which were colds) and lost fewer days of work because of these illnesses than those in the control group. Exercise also had some benefit, but not as much as meditation.

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- This study is the first to suggest that meditation may reduce the impact of colds. Because it's the only study of its kind, its results shouldn't be regarded as conclusive.
- Meditation is generally considered to be safe for healthy people. However, there have been reports that it might worsen symptoms in people with certain chronic physical or mental health problems. If you have an ongoing health issue, talk with your health care provider before starting meditation.
- More information on meditation is available at nccih.nih.gov/health/meditation.

— Probiotics

- A 2015 evaluation of 13 studies found some evidence suggesting that probiotics might reduce the number of colds or other upper respiratory tract infections that people catch and the length of the illnesses, but the quality of the evidence was low or very low.
- In people who are generally healthy, probiotics have a good safety record. Side effects, if they occur at all, usually consist only of mild digestive symptoms such as gas. However, information on the long-term safety of probiotics is limited, and safety may differ from one type of probiotic to another. Probiotics have been linked to severe side effects, such as dangerous infections, in people with serious underlying medical problems.
- More information on probiotics is available at nccih.nih.gov/health/probiotics.

— Saline Nasal Irrigation

- Saline nasal irrigation means rinsing your nose and sinuses with salt water. People may do this with a neti pot (a device that comes from the Ayurvedic tradition) or with other devices, such as bottles, sprays, pumps, or nebulizers. Saline nasal irrigation may be used for sinus congestion, allergies, or colds.
- There's limited evidence that saline nasal irrigation can help relieve cold symptoms. Studies of this technique have been too small to allow researchers to reach definite conclusions.
- Saline nasal irrigation used to be considered safe, with only minor side effects such as nasal discomfort or irritation. However, in 2011, a severe disease caused by an amoeba (a type of microorganism) was linked to nasal irrigation with tap water. The U.S. Food and Drug Administration (FDA) has warned that tap water that is not filtered, treated, or processed in specific ways is not safe for use in nasal rinsing devices and has explained how to use and clean these devices safely.

— Vitamin C

- An evaluation of the large amount of research done on vitamin C and colds (29 studies involving more than 11,000 people) concluded that taking vitamin C doesn't prevent colds in the general population and shortens colds only slightly. Taking vitamin C only after you start to feel cold symptoms doesn't affect the length or severity of the cold.
- Unlike the situation in the general population, vitamin C does seem to reduce the number of colds in people exposed to short periods of extreme physical stress (such as marathon runners and skiers). In studies of these groups, taking vitamin C cut the number of colds in half.

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- Taking too much vitamin C can cause diarrhea, nausea, and stomach cramps. People with the iron storage disease hemochromatosis should avoid high doses of vitamin C. People who are being treated for cancer or taking cholesterol-lowering medications should talk with their health care providers before taking vitamin C supplements.
- More information on vitamin C is available at <http://ods.od.nih.gov/factsheets/VitaminC-QuickFacts/>.

– Zinc

- Zinc has been used for colds in forms that are taken orally (by mouth), such as lozenges, tablets, or syrup, or used intranasally (in the nose), such as swabs or gels.
- **Oral Zinc**
 - A 2013 assessment of 16 clinical trials of oral zinc (lozenges or syrup), involving almost 1,400 people, concluded that zinc helps to reduce the length of colds when taken within 24 hours after symptoms start, but it hasn't been shown to affect the severity of colds. Zinc lozenges may shorten the duration of symptoms affecting the throat, which comes into direct contact with the zinc, as well as other symptoms such as runny nose and sneezing.
 - Zinc has not been studied in people for whom cold symptoms might be particularly troublesome, such as those with asthma or immune deficiencies, so its effects in these groups are unknown.
 - A few studies have tested the use of zinc, in doses lower than those used for treatment, to try to prevent colds in children, but there aren't enough results to allow conclusions to be reached.
 - Oral zinc can cause a bad taste, as well as nausea and other gastrointestinal symptoms. Long-term use of high doses of zinc can cause low copper levels, reduced immunity, and low levels of HDL cholesterol (the "good" cholesterol). Zinc may interact with drugs, including antibiotics and penicillamine (a drug used to treat rheumatoid arthritis).
- **Intranasal Zinc**
 - The use of zinc products inside the nose, such as gels or swabs, may cause loss of the sense of smell, which may be long-lasting or permanent. In 2009, the FDA warned consumers to stop using several intranasal zinc products marketed as cold remedies because of this risk.
 - Prior to the warnings about effects on the sense of smell, a few studies of intranasal zinc had suggested a possible benefit against cold symptoms. However, the risk of a serious and lasting side effect outweighs any possible benefit in the treatment of a minor illness.
- More information on zinc is available at <http://ods.od.nih.gov/factsheets/Zinc-QuickFacts/>.

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Other Complementary Approaches

In addition to the complementary approaches described above, several other approaches have been studied for colds. In all instances, there is insufficient evidence to show whether these approaches help to prevent colds or relieve cold symptoms.

- Andrographis (*Andrographis paniculata*)
- Chinese herbal medicines
- Green tea
- Guided imagery
- Hydrotherapy
- Vitamin D
- Vitamin E

NCCIH-Funded Research

NCCIH-supported researchers are conducting a variety of studies relevant to the flu or colds. Topics of recent research include:

- Whether probiotics can enhance older adults' response to flu vaccine
- Meditation and exercise for preventing acute respiratory infection
- How psychosocial factors, such as the quantity and quality of social relationships, influence the likelihood of catching colds
- The effects of echinacea on the immune system.

More To Consider

- Complementary health approaches should never be used as a substitute for flu vaccination.
- Tell all your health care providers about any complementary or integrative health approaches you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

For More Information

NCCIH Clearinghouse

The NCCIH Clearinghouse provides information on NCCIH and complementary and integrative health approaches, including publications and searches of Federal databases of scientific and medical literature. The Clearinghouse does not provide medical advice, treatment recommendations, or referrals to practitioners.

Toll-free in the U.S.: 1-888-644-6226

TTY (for deaf and hard-of-hearing callers): 1-866-464-3615

Web site: nccih.nih.gov

E-mail: info@nccih.nih.gov

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National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health

NIAID conducts and supports basic and applied research to better understand, treat, and ultimately prevent infectious, immunologic, and allergic diseases.

Toll-free in the U.S.: 1-866-284-4107

Web site: www.niaid.nih.gov

Flu.gov

Managed by the U.S. Department of Health and Human Services, Flu.gov provides comprehensive government-wide information on seasonal, H1N1 (swine), H5N1 (bird), and pandemic influenza for the general public, health professionals, and others.

Web site: www.flu.gov

PubMed®

A service of the National Library of Medicine (NLM), PubMed contains publication information and (in most cases) brief summaries of articles from scientific and medical journals. For guidance from NCCIH on using PubMed, see [How To Find Information About Complementary Health Approaches on PubMed](#).

Web site: www.ncbi.nlm.nih.gov/pubmed

MedlinePlus

To provide resources that help answer health questions, MedlinePlus (a service of NLM) brings together authoritative information from the National Institutes of Health as well as other Government agencies and health-related organizations.

Web site: www.nlm.nih.gov/medlineplus/

Information on the common cold: www.nlm.nih.gov/medlineplus/commoncold.html

Information on flu: www.nlm.nih.gov/medlineplus/flu.html

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