Examine.com

Allergies & Immunity Supplement Guide

Written by the editors of Examine.com

Updated November 07, 2017

Medical Disclaimer

This guide is a general-health document for adults over 18. Its aim is strictly educational. It does not constitute medical advice. Please consult a medical or health professional before you begin any exercise-, nutrition-, or supplementation-related program, or if you have questions about your health.

This guide is built on scientific studies, but study outcomes are never homogeneous: individual results do vary. If you engage in any activity or take any product mentioned herein, you do so of your own free will, and you knowingly and voluntarily accept the risks. While we mention major known interactions, it is possible for any supplement to interact with other supplements, as well as with foods and pharmaceuticals.

A product may not contain the exact compounds and amounts listed on its label. Before you decide whether to take it, investigate it and its manufacturer. More than isolated compounds, herbs are prone to batch-to-batch variability, which can alter their efficacy and safety.

For evidence supporting the claims mentioned in this guide, please visit Examine.com.

Table of Contents

How to Use This Guide

The Examine.com team has been publishing research on nutrition and supplementation since March 2011. Drawing from all we've learned, we've designed this Stack Guide to help you figure out which supplements can help you reach your health goal, and which can hinder you or just waste your money.

Core supplements have the best safety-efficacy profile. When used responsibly, they are the supplements most likely to help and not cause side effects.

Primary options may provide substantial benefit, but only in the right context. A primary option is not for everyone, but if you read the entry and find that you meet the criteria, consider adding the supplement to your stack.

Secondary options have less evidence for their effects. They could work or be a waste of money. Keep them in mind, but think twice before adding them to your stack.

Promising supplements are backed by tradition or by mechanistic, animal, epidemiological, or anecdotal evidence, but not yet by convincing human trials.

Inadvisable supplements are either potentially dangerous or simply ineffective, marketing claims notwithstanding. Do not add them to your stack. At best, they'll be a waste of money; at worst, they can cause you harm.

Now that you've been presented with various supplements worthy of your interest, the time has come to combine them based on your objective. We'll guide you in **assembling your stack**.

Then comes the **FAQ**, in which we cover common questions that may arise when assembling your stack.

Lastly, we include information on **precautions and troubleshooting**.

With all this combined, you should be able to identify and assemble the supplement stack best suited to your objective.

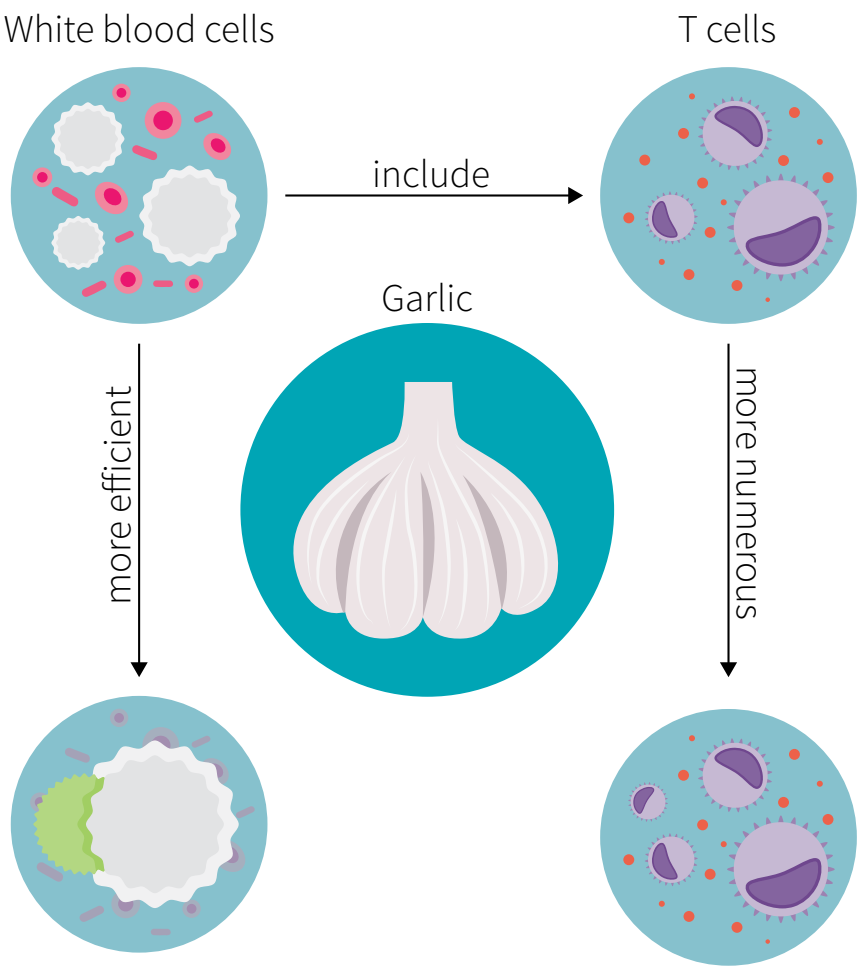
Core Supplements

Garlic

Why it's a core supplement

By improving the ability of white blood cells (lymphocytes) to fight invaders and by increasing the production of T cells (T lymphocytes), garlic can enhance the immune system and thus reduce the risk of colds and other infections. Garlic will not, however, reduce the duration of a disease or the severity of the symptoms; it is a preventive supplement.

Figure 1: Effects of garlic on white blood cells



Garlic can interact with several pharmaceuticals, notably drugs used to treat tuberculosis and HIV. Its antiplatelet properties make it a blood thinner, which could be a problem for people taking other blood thinners, be they antiplatelet agents (such as aspirin) or anticoagulants (such as warfarin/Coumadin). It can also decrease the effectiveness of some oral contraceptives. If you take any medication, talk to your doctor before supplementing garlic.

How to take it

To maximize the benefits of garlic, eat 3–6 cloves daily over several meals. You should first cut or crush them, to activate their bioactive compounds, then cook them or eat them raw.

Supplementation can provide the same benefits. If you dislike the smell or taste of garlic, or if you wish to avoid the bad breath that comes from eating the cloves, take 600–1,200 mg of an aged garlic extract daily.

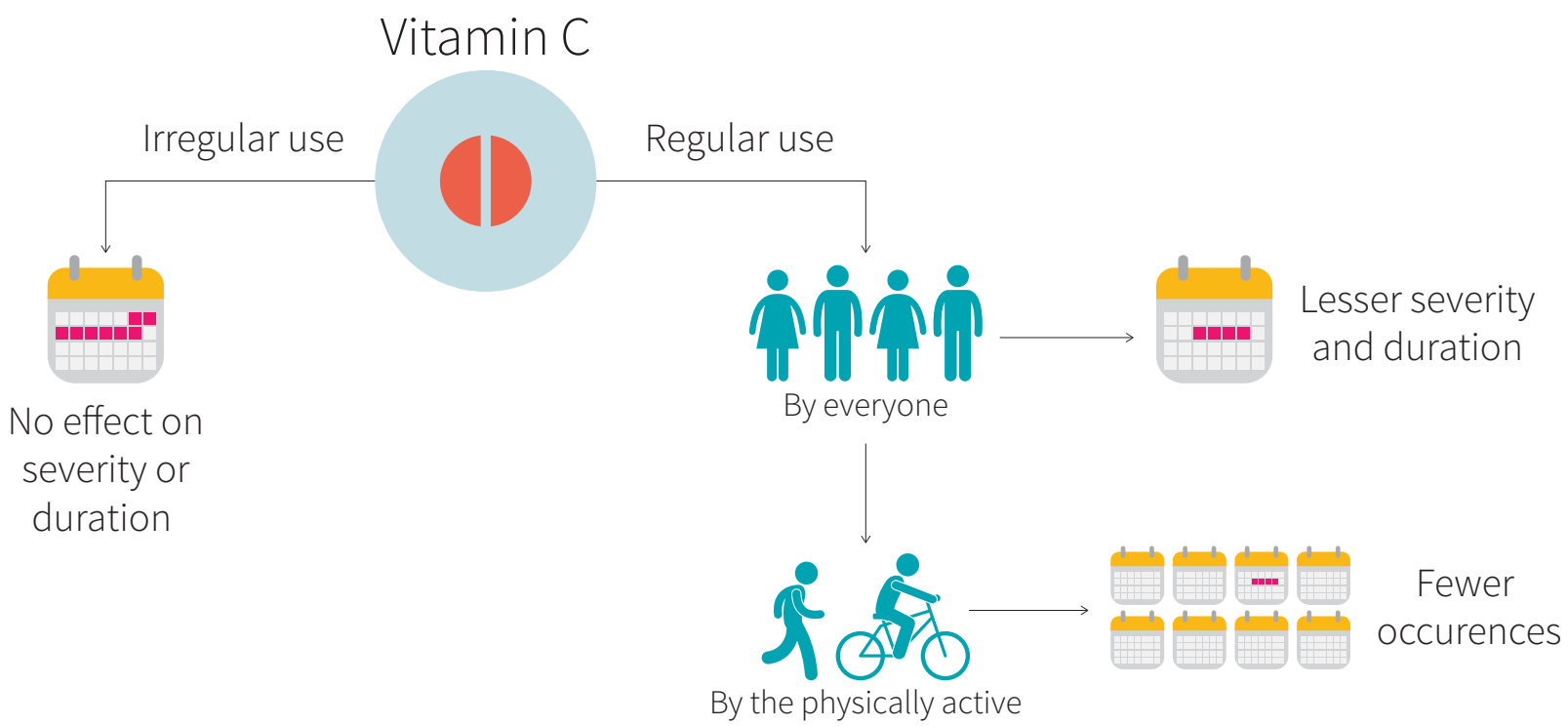
Too much garlic daily (12 cloves) or at once (6 cloves, or 1,200 mg of an aged garlic extract) could cause low blood pressure, especially if taken with other hypotensive agents, and prolong bleeding time. Eating 8 cloves in a day is enough to strongly reduce the efficacy of the anti-HIV drug saquinavir (Fortovase, Invirase).

Vitamin C

Why it's a core supplement

Vitamin C is unique in that it can be either an antioxidant or a pro-oxidant, depending on physiological context. Vitamin C is researched mostly for its effects on colds. It might help reduce the duration and severity of colds, but only when taken regularly (so before the first symptoms). In people who are physically very active, and thus more likely to get sick, it can also reduce the occurrence of colds.

Figure 2: Effects of vitamin C on colds



Like garlic, vitamin C may reduce the effectiveness of some HIV medications. Moreover, since it can increase the absorption of iron and aluminum, it should not be supplemented within several hours of aluminum-based antacids.

Ascorbic acid is the most commonly studied and commercially available form of vitamin C. Other forms (calcium ascorbate, potassium ascorbate, sodium ascorbate …) may be more *expensive*, but they haven't been shown to be more *effective*.

How to take it

Take 1–2 g of vitamin C in the form of **ascorbic acid** in divided doses throughout the day. Further research is needed to determine whether vitamin C is better absorbed with food.

Primary Options

Pelargonium Sidoides

Why it's a primary option

Pelargonium sidoides, a plant also known as umckaloabo or South African geranium, contains compounds called prodelphinidins that can prevent bacteria from attaching to the throat and lungs.

Taken at the beginning of an illness characterized by dry and hoarse coughing, *Pelargonium sidoides* can reduce the severity of the symptoms and the duration of the disease. However, it does not seem to prevent infections from occurring in the first place.

Pelargonium sidoides is used primarily to treat acute bronchitis. It has less evidence for treating the common cold.

How to take it

Most studies on *Pelargonium sidoides* used EPs 7630 (a patented 8–10:1 extract), but you could also supplement the raw powder.

To supplement an **EPs 7630 syrup**, take 1 mL (about ¼ teaspoon) thrice a day before meals, so 3 mL per day.

To supplement an **EPs 7630 hydroalcoholic extract**, take 4.5 mL (about 1 teaspoon or 30 drops) thrice a day before meals, so 13.5 mL per day.

To supplement the **raw powder**, take 720 mg thrice a day before meals, so 2,160 mg per day.

Supplementation of *Pelargonium sidoides* should begin at the onset of dry respiratory symptoms and continue until the symptoms have disappeared.

Zinc

Why it's a primary option

Zinc (Zn) is a dietary mineral that can bolster the immune system and thus protect against the common cold and other infectious diseases. If taken within a day of the first symptoms, zinc may prevent them from worsening; it can also reduce the duration of the disease.

Only high-dose zinc acetate lozenges have shown consistent benefits. Lozenges are meant to be sucked, so that the zinc can better reach the throat tissues. This supplementation method can cause minor nausea and a temporarily disrupted sense of taste.

Zinc nasal sprays, swabs, and gels carry a risk of temporary or permanent loss of smell and possibly taste. They should be avoided.

How to take it

As an acute response to an infectious disease, suck **zinc acetate** lozenges throughout the day (80–125 mg of zinc per day).

Stop after one week or as soon as the symptoms disappear, whichever comes first. Over time, such high doses of zinc can irritate the gastrointestinal tract. They can also cause a copper deficiency, since zinc kick-starts the process of creating metallothionein, a protein that binds zinc but also other metals, notably copper; the bound metals then leave the body as waste products. Even higher doses of zinc can damage the liver and kidneys, too, so be careful not to cumulate zinc supplements (the lozenges mentioned in this guide and the zinc in a multivitamin, for instance).

Avoid taking calcium, iron, magnesium, and zinc at the same time in combinations of 800+ mg, since high amounts of these minerals will compete for absorption. Though to a lesser extent than magnesium, zinc in any form may also impair the absorption of antibiotics, notably those in the tetracycline class (e.g., doxycycline) and quinolone class (e.g., ciprofloxacin), so consider taking zinc and antibiotics at least six hours apart.

Secondary Options

Echinacea Purpurea

Why it's a secondary option

Echinacea purpurea was one of the first herbs marketed as an immune system booster. It contains a variety of bioactive compounds called alkylamides, but more research is needed to determine how they interact and what effects they have on the immune system.

Taken year round or during periods of likely illness, *Echinacea purpurea* can reduce the risk of catching a cold. It probably will not reduce the duration of a cold, but it might reduce the risk of complications (such as pneumonia).

Echinacea may interact with many pharmaceuticals. If you are currently taking medication, talk to your doctor before supplementing *Echinacea*. Do not supplement *Echinacea* if you are taking immunosuppressive drugs.

How to take it

Echinacea purpurea is sold as a powder (usually in capsules) and as a tincture. Three times a day, take 300–500 mg of the powder (i.e., 900–1,500 mg/day) or 2.5–10 mL of the tincture (i.e., 7.5–30 mL/day).

More research is needed to determine the optimal dose of *Echinacea* and if it is more effective when taken with food or on an empty stomach.

Elderberries

Why it's a secondary option

Berries from the elder (*Sambucus nigra*) have a long history of medicinal use in Native American, Mediterranean, and ancient Egyptian cultures. They have also been used traditionally for protection against witches, but no randomized controlled trials have been performed to test this hypothesis.

In vitro and animal studies suggest that elderberries have antiviral properties and may notably inhibit influenza. Most human trials had small sample sizes and all suffered from methodological limitations, but their results were consistent: supplementation within a day of the first symptoms led to a mild to moderate reduction of the infection's severity and duration.

If you choose to prepare elderberries yourself rather than purchasing a supplement, ***you must properly cook them***. Uncooked, they can cause cyanide toxicity and thus nausea, vomiting, and worse. The bark, root, and leaves of the elder tree, being even richer in cyanide than the berry, should never enter in the preparation of supplements such as elderberry juice.

How to take them

Begin supplementation within one day of the first symptoms and continue until they disappear (which typically takes about 5 days).

To supplement **lozenges** or **capsules**, take 700–900 mg of elderberry extract per day, split into 3 or 4 doses.

To supplement **a syrup**, take 1 teaspoon (5 mL) four times a day. In one study of Sambucol, an elderberry syrup brand, 12 teaspoons (60 mL) were taken daily for 5 days with no adverse effects noted, but this higher dosage was not shown to be more effective.

Using elderberry as a short-term prophylactic (e.g., supplementing for a week before a trip) *might* reduce your chance of catching a cold, but research here is still preliminary.

NAC

Why it's a secondary option

NAC (N-acetylcysteine) is a mucolytic: it reduces the viscosity of mucus, making it easier to cough out. Also, by replenishing the cells' stores of the antioxidant glutathione, NAC can further hinder some chronic lung diseases. For instance, NAC can reduce the number of *chronic obstructive pulmonary disease* (COPD) exacerbations, though only in people suffering from frequent exacerbations, and even then, only to a very small extent.

NAC does not have sufficient evidence for the treatment of other chronic respiratory conditions, such as cystic fibrosis, chronic bronchitis, or chronic cough.

How to take it

Take 600 mg of NAC twice a day, with or without food. Higher doses do not seem to be more effective, whereas lower doses do not seem to be effective at all.

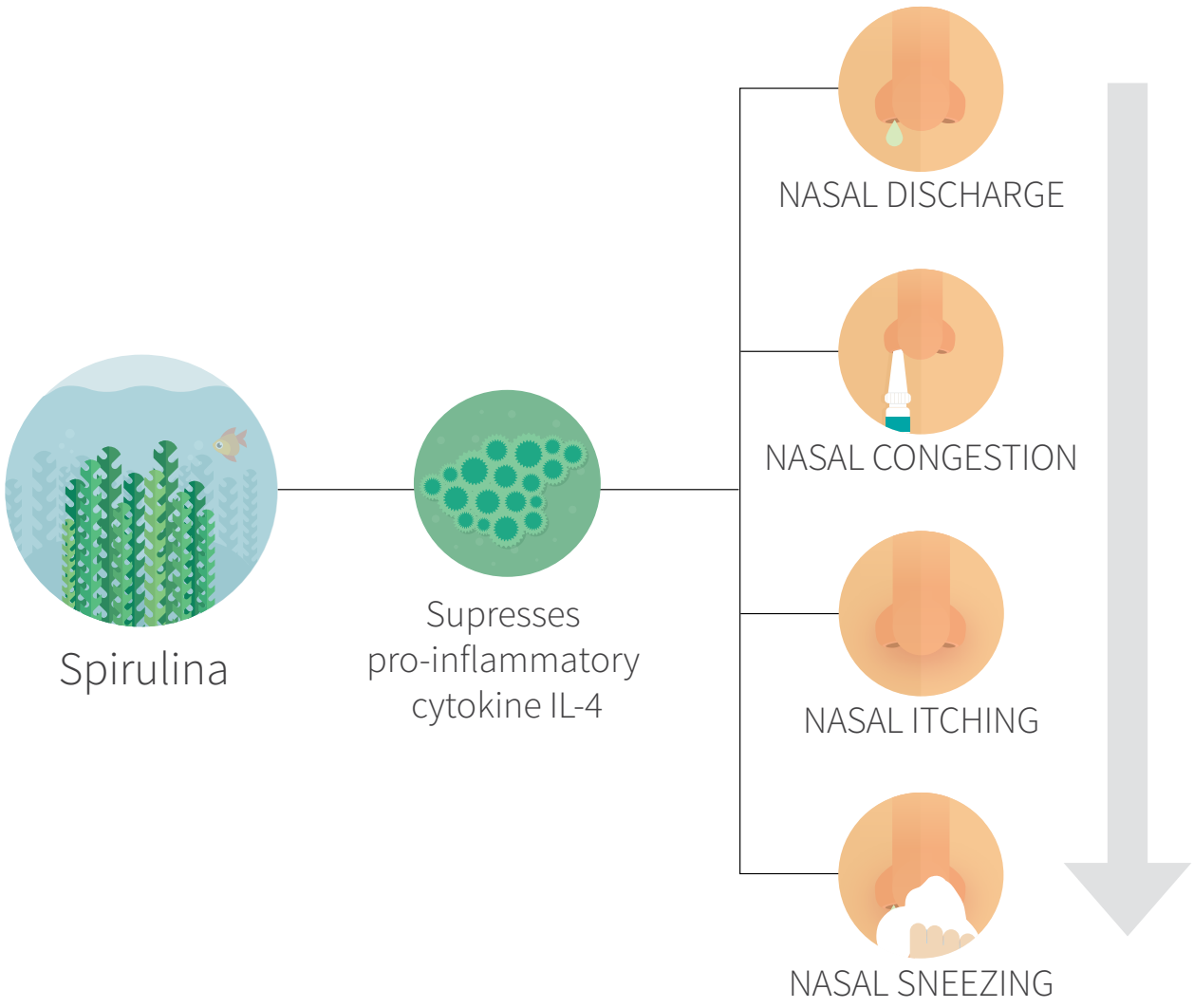
To lower a high frequency of COPD exacerbations, NAC should be taken year-round.

Spirulina

Why it's a secondary option

Spirulina is a protein-rich algae that contains anti-inflammatory compounds. Limited evidence suggests that it can reduce symptoms of nasal allergies, such as sneezing or a stuffy nose. Further research is needed to confirm this benefit and determine whether spirulina can ward off sickness.

Figure 3: Effects of spirulina on nasal allergies



How to take it

To supplement spirulina, take 2 g/day for at least 12 weeks, with or without food.

Tinospora Cordifolia

Why it's a secondary option

Tinospora cordifolia, also known as guduchi, is an herb used in Ayurvedic medicine to stimulate the immune system. Limited evidence suggests that it can alleviate the symptoms of allergies, such as a stuffy nose. Similarly to garlic, it may also prevent infections by improving the ability of white blood cells to fight invaders. Further research is needed to determine whether garlic and *Tinospora cordifolia* are synergistic.

How to take it

Three times a day, take 300 mg of a *Tinospora cordifolia* water extract concentrated for 5% bitters (i.e., 900 mg/day).

Inadvisable Supplements

Many are the supplements absent from this guide because of a relative lack of scientific evidence. Sickness is a lucrative business, so unsubstantiated claims are numerous. As a rule, avoid "proprietary blends" that hide from you how much of each ingredient you are actually getting, as well as formulations containing homeopathic (read: very small) amounts of active ingredients.

Assembling Your Stack

Incorporating Core Supplements

Three times a day, with meals, take garlic (either 1–2 cloves or 200–400 mg of an extract) and ascorbic acid (500 mg). Those supplements can only help if taken regularly (i.e., before the first symptoms).

Incorporating Options

For people who easily get sick

Thrice a day, in addition to the core supplements, take *Tinospora cordifolia* (300 mg of a water extract concentrated for 5% bitters) together with *Echinacea purpurea* in the form of powder (300–500 mg) or tincture (2.5–10 mL).

For people at the onset of a sickness characterized by a sore throat

In addition to the core supplements, take *Pelargonium sidoides* until the symptoms disappear. Thrice a day before meals, take either the raw powder (720 mg), an EPs 7630 syrup (1 mL, so about ¼ teaspoon), or an EPs 7630 hydroalcoholic extract (4.5 mL, so about 1 teaspoon or 30 drops).

You can also suck zinc acetate lozenges throughout the day (75–125 mg/day) for one week or until the symptoms disappear, whichever comes first.

For people with chronic stuffy nose

In addition to the core supplements, take spirulina (2 g/day) and *Tinospora cordifolia* (300 mg thrice a day) year-round.

For people with COPD

In addition to the core supplements, take NAC (600 mg twice a day) year-round.

FAQ

Can I add to my stack a supplement not covered in this guide?

Supplement your current stack for a few weeks before attempting any change. Talk to your doctor and research each potential new addition in advance. Check for known negative interactions with other supplements in your current stack, but also for synergies. If two supplements are synergistic or additive in their effects, you might want to use lower doses for each.

Can I modify the recommended doses?

If a supplement has a recommended dosage range, stay within that range. If a supplement has a precise recommended dose, stay within 10% of that dose. Taking more than recommended could be counterproductive or even dangerous.

Should I take my supplements with or without food? And at what time?

Answers are provided in each supplement entry whenever the evidence permits. Too often, however, the evidence is either mixed or absent. Besides, a supplement's digestion, absorption, and metabolism can be affected differently by different foods. Fat-soluble vitamins (A, D, E, K), for instance, are better absorbed with a small meal containing fat than with a large meal containing little to no fat.

Starting with half the regular dose can help minimize the harm a supplement may cause when taken during the day (e.g., tiredness) or in the evening (e.g., insomnia).

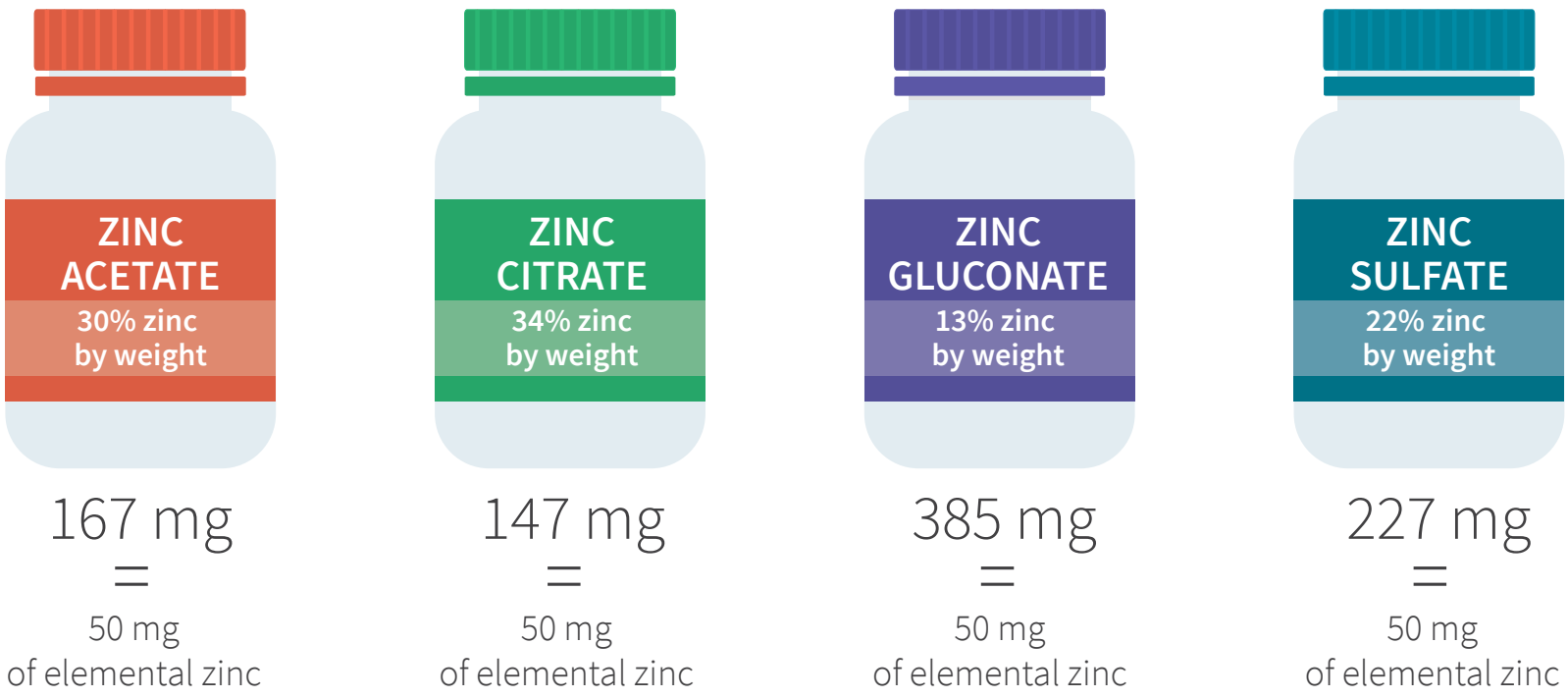
Can I take garlic and vitamin C in one dose instead of three?

Water-soluble vitamins taken in excess are readily excreted. Smaller doses of vitamin C are more easily assimilated and stored (for a few days). Similarly, frequent dosing allows the bioactive compounds in garlic to remain longer in your body. This makes splitting your daily dose more effective, but not to a very great extent in either case, so if you can only manage a single dose per day, you'll still benefit.

What's the difference between elemental zinc and other kinds of zinc?

"Elemental" refers to the weight of the mineral by itself, separately from the compound bound to it. For instance, consuming 50 mg of zinc acetate means consuming 15 mg of elemental zinc. ***Product labels display the elemental dosage.*** On a label, "15 mg of zinc (as zinc acetate)" means 15 mg of elemental zinc (and 35 mg of acetic acid).

Figure 4: Four different compounds of zinc



Precautions and Troubleshooting

Stack components are seldom studied together. The safest way to add supplements to your daily routine is one at a time, at least a couple of weeks apart, to better assess the effects (and side effects) of each new addition. Start at half the regular dose for a week, then slowly increase to the regular dose if you are not experiencing the desired effects.

Since minerals and vitamins (especially the fat-soluble vitamins: A, D, E, and K) can accumulate in the body, it is best to consider supplementation only after a dietary evaluation. Track what you eat for a week; if, on average, you are getting less than 80% of your Recommended Dietary Allowance or Adequate Intake, supplementation becomes an option, though first you should try eating more foods rich in the desired vitamin or mineral.