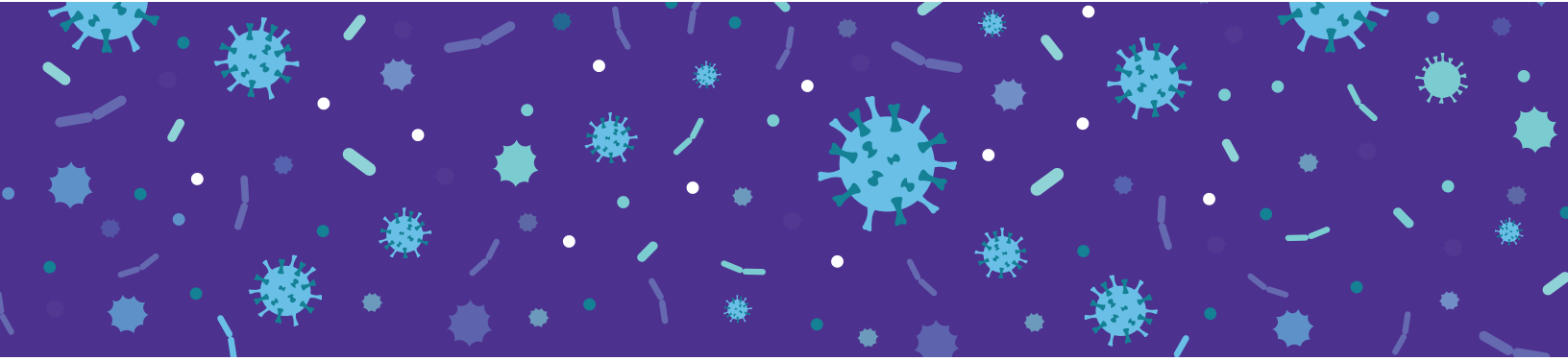
CHAMP

Uniformed Services University

OPERATION SUPPLEMENT SAFETY

IMMUNE HEALTH GUIDE

2023



The buzz about immune supplements: **What you should know**

Products with claims to support, maintain, or even "boost" immune health are flooding the dietary supplement marketplace. In fact, many people who use supplements cite a "desire to boost their overall immunity" as their primary reason for supplement use.

Especially during the winter months, you might wonder whether it would be beneficial to take an immune supplement. Will you be less likely to get sick or, if you do get sick, will you recover more quickly if you take an immune supplement?

How do you know if the claims are truthful? The overwhelming number of products and ingredients can seem daunting. Where do you even start? What do you look for on a product label? Are the ingredients safe? Are the claims made on product labels and in advertisements backed by science?

To help answer these questions, scientists at Operation Supplement Safety (OPSS) and the Office of Dietary Supplements at the National Institutes of Health teamed up to investigate dietary supplement products for immune health and their ingredients. This research was published in the November 2022 issue of *Nutrients*.[1]

Echinacea

Elderberry

Garlic

Vitamin C

Vitamin D

Zinc

Based on this research, OPPS put together this Immune Health Guide. We hope you find it a useful resource to help you become a more informed consumer. This Guide contains evidence-based information on some of the most common ingredients found in dietary supplement products marketed for immune health and some easy tips to consider when thinking about the use of dietary supplements for immune health.

The mission of OPSS is to provide the best evidence-based information about dietary supplements to Service Members, their families, healthcare providers, and leaders to help achieve human performance optimization.

Sincerely,

Andrea T. Lindsey

Andrea T. Lindsey, MS

Director, Operation Supplement Safety
Senior Nutrition Scientist, HJF
In support of the Consortium for Health and Military Performance (CHAMP)

[1]Crawford, C., Brown, L. L., Costello, R. B., & Deuster, P. A. (2022). Select Dietary Supplement Ingredients for Preserving and Protecting the Immune System in Healthy Individuals: A Systematic Review. Nutrients, 14(21). doi:10.3390/nu14214604

IMMUNE HEALTH GUIDE

OPERATION SUPPLEMENT SAFETY

OPSS is a program under the Consortium for Health and Military Performance, a DoD Center of Excellence at the Uniformed Services University of the Health Sciences.

Introduction: **Dietary supplements marketed for immune health**

65% *of supplement users cite a desire to...*
"boost their overall immunity" *or*
"protect themselves from COVID-19."

However...

52% *mistakenly believe that supplements have been declared safe and effective by the Food and Drug Administration (FDA).*

46% *report talking with their healthcare provider before using supplements.*

32% *do not think their healthcare provider knows enough about supplements to advise them properly.*

If you are considering—or advising someone on—the use of dietary supplements for immune health, you are likely overwhelmed with the thousands of products on the market and all the promising claims made in their advertising.

YOU ARE NOT ALONE!

People are taking more dietary supplements today than ever before, with the U.S. percentage of supplement users at 76%.

The global immune-health supplements market was valued at $55.3 billion in 2020 and is expected to expand at a compound annual growth rate of 11.3% from 2021 to 2028.[1] People seem more health conscious than ever, and maintaining or improving immune health is important to consumers. Unfortunately, such surges in the market often come with surges of misinformation, and it isn't easy to know where to go for reliable information or what information sources to trust.

Our goal at Operation Supplement Safety is to provide educational tools and evidence-based resources to help users make informed decisions about dietary supplements.

[1]*Grand View Research. Immune Health Supplements Market Size, Share and Trends Analysis Report by Product, by Form, by Application, by Mode of Medication, by Distribution Channel, by Region, and Segment Forecasts, 2021-2028. Report ID: GVR-4-68039-548-0.* *https://www.grandviewresearch.com/industry-analysis/immune-health-supplements-market-report*

Harris Poll shows that three in ten Americans increased supplement use since onset of pandemic. Survey sponsored by Samueli Foundation. News release 21-Jul-2021. *https://www.eurekalert.org/news-releases/807544*

Under the magnifying glass: **Immune supplements**

Operation Supplement Safety investigated dietary supplement products (through the lens of resilience) for immune health, their ingredients, and the strength of the evidence to support their claims.

"Support the body's response to stress and fuels the immune system"

"Primes the immune system to protect the body against daily stressors and environmental challenges"

"Immune defense"

"Daily immune boost"

Let's dig into the science!

Overview: Immune supplements under the magnifying glass

Thousands of dietary supplement products are on the market today with claims to support, improve, or boost the immune system. Some claims are specifically targeted toward individuals who might be experiencing certain daily life stressors, such as more-than-usual physical or psychological stress. Others focus on the seasonal shift to wintertime when colds, coughs, and flu symptoms are commonly lurking.

"Support the body's response to stress and fuel the immune system," "primes the immune system to protect the body against daily stressors and environmental challenges," "immune defense," and "daily immune boost" are some common claims advertised on dietary supplement products marketed to support immune health. In other words, these claims are about resilience* to help your immune system face challenges to your health.

Operation Supplement Safety investigated dietary supplement products (through the lens of resilience) for immune health, their ingredients, and the strength of the evidence to support their claims.

What ingredients are frequently listed on immune supplement product labels?

Many immune health products list multiple ingredients on their labels. Some of the most common ingredients are plant-based: echinacea, elderberry, garlic, ginger, goji juice, goldenseal, holy basil, licorice, mangosteen, various mushrooms, noni, rose hip, slippery elm, and turmeric. However, the vitamins A, B, C, D, E, and K, and the minerals calcium, magnesium, selenium, and zinc are also common.

What is the evidence behind the claims?

Claims made for dietary supplement products and their ingredients to support or boost the immune system currently do not appear overall to have strong scientific evidence for or against their use by the otherwise healthy consumer looking to enhance their immunity. Research has been conducted on some ingredients, such as echinacea, elderberry, garlic, vitamin C, vitamin D, and zinc. Other ingredients do not yet seem to have the needed scientific evidence available to support their resilience claims.

According to the Food and Drug Administration and federal regulations for dietary supplements, claims made for dietary supplement products and their ingredients to "diagnose, treat, cure or prevent any disease" are not allowed. So, claims such as "natural flu prevention," "boosts immunity and keeps you healthy from disease," "resists infection" or any claim mentioning COVID are not permitted. Also, claims with words such as "protect," "defend," and "boost your immunity" are questionable. General claims with terms such as "supports" or "maintains" the immune system that are not specific to any prevention or treatment are otherwise permissible structure/function or health claims for dietary supplements.

*NIH defines "resilience" as "encompassing the capacity to resist, adapt to, recover, or grow from a challenge."

What to look for in an immune supplement

In general, dietary supplements for immune health seem to be safe. However, evidence does exist that some products might be misbranded, which means that the ingredients listed on the label might not actually be contained in the product. Also, some products could contain substances not even reported on the labels. When choosing an immune health product:

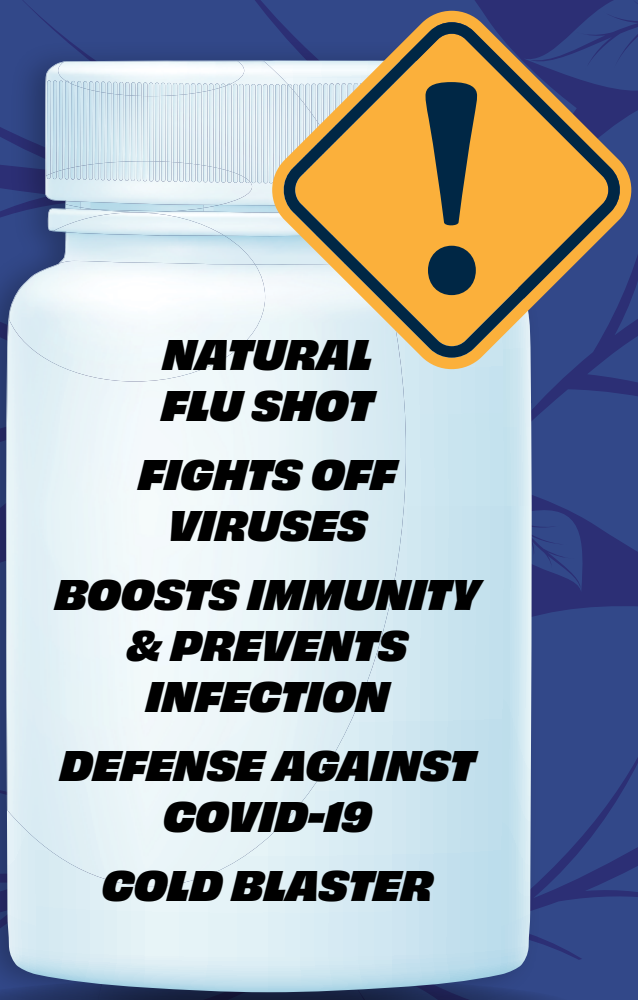
- Look for products displaying third-party seals such as BSCG, Informed Sport, NSF Sport, or USP.
- Consider products that do not list multiple ingredients on the label.
- Steer away from products with quick-fix claims or statements that imply they can prevent or treat any disease condition.
- For vitamins and minerals, make sure the amounts listed on the product label are below the upper limit and not much higher than the recommended daily allowances. See the Office of Dietary Supplements, National Institutes of Health, information page about these recommendations.

IMMUNE HEALTH PRODUCT CLAIMS

Thousands of dietary supplement products are on the market today with claims to support, improve, or boost the immune system.

Dietary supplements are not intended to diagnose, treat, mitigate, cure, or prevent any disease or condition.

Steer away from products with these types of claims.



Some claims are allowed by FDA. **OPSS.org** has evidence-based immune-health information to help you make an informed decision. Read our articles.

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The science behind common ingredients found on immune supplement labels

The information in the articles that follow only relates to the use of single-ingredient dietary supplements by healthy individuals looking to support immune health and does not represent the evidence for ingredients in combination or when used for other health conditions. Unfortunately, little or no evidence is available regarding the various combinations of ingredients found in multi-ingredient products.

Please visit the individual articles on OPSS.org to view references. You can use the search feature on the website or go to the A–Z web page to locate the articles on individual ingredients.

- **Echinacea**
- **Elderberry**
- **Garlic**
- **Vitamin C**
- **Vitamin D**
- **Zinc**

Echinacea as a dietary supplement for immune health

Echinacea is an herb closely related to sunflowers and ragweed. There are many different species of echinacea. The leaf, flower, and root of the most common ones—*E. angustifolia* and *E. purpurea* (or combinations of species)—appear on the labels of many dietary supplement products promoted to support immune health. Echinacea in dietary supplements is often touted to prevent or treat the common cold and flu-like symptoms. Common claims on these products include "year-round herbal supplement for immune support," "immunity boosting," and "immune defense."

Use of echinacea might slightly reduce your chance of getting sick from the common cold or developing flu-like symptoms throughout the winter months. Long-term use has not been evaluated for safety.

The various types of echinacea extracts are available in capsule or liquid form, with the amounts and specific species listed on product labels varying widely. Echinacea is also found in many teas. It's important to speak with a healthcare practitioner when considering an echinacea product, since no evidence-based recommendations have been agreed upon surrounding any type or amount of echinacea.

Can echinacea supplements support or boost immune health?

Preliminary research shows that healthy individuals might experience less risk of getting the common cold or developing flu-like symptoms when taking various echinacea dietary supplement products throughout the winter months or when exposed to certain life stressors. How much of a benefit this would actually provide is currently debatable, but some studies have shown that using echinacea might reduce the risk of getting sick by approximately 10–30%. Evidence showing that an individual will recover or bounce back more quickly if taking echinacea (either as a dietary supplement or a tea) when they do get sick is insufficient to make a firm statement.

Can echinacea negatively affect health and performance?

Echinacea appears safe for short-term use among healthy individuals. Common adverse effects reported include stomach pain, diarrhea, heartburn, and rash. Allergic reactions could occur, especially if you're allergic to similar plants such as ragweed. Less is known about how echinacea might impact performance in other areas. The long-term use of echinacea has not been evaluated for safety.

The bottom line

The evidence to show that echinacea might help maintain immune health and reduce the chance of getting a cold or developing flu-like symptoms, short-term, is limited. It is unknown what types or formulations of echinacea might offer benefit over others. Always speak with a healthcare practitioner before you use any dietary supplement, and always look for third-party seals on products. And remember: No dietary supplement can legally be marketed with claims for diagnosing, treating, curing, or preventing any disease or health condition, including flu, colds, and COVID-19.

Elderberry as a dietary supplement for immune health

Elderberry is the berry of the black elder tree, or *Sambucus nigra*, and contains a number of antioxidants. The black elder tree is native to Europe, but also grows in North America and parts of Asia and Africa. In folk medicine, elderberry has been used for centuries to support overall well-being. Today, elderberry is typically included in dietary supplements as an extract or juice concentrate of the whole fruit, and products with elderberry are primarily marketed to support immune health—from respiratory illnesses such as the common cold and influenza to, most recently, COVID-19.

There isn't enough evidence to show whether elderberry, as a dietary supplement, can support or boost immune health. If not property prepared, it could be toxic.

Elderberry supplements come in a variety of formulations, including syrups, capsules, and lozenges. Many products are specifically marketed for children, especially in a chewable or gummy form. In addition, some products contain other parts of the black elder tree, most commonly elderflower, mixed with the berry. If elderberry isn't prepared correctly, it could be toxic.

Can elderberry support *immunity* to respiratory illness?

Elderberry does not seem to prevent or reduce the risk of developing a respiratory illness. However, this evidence is based on only one study among healthy adults that examined the effects of a dietary supplement containing elderberry extract (600 mg per day). The study found no significant difference in the incidence of developing a well-defined cold among those taking the extract compared to those who did not.

Can elderberry help support *recovery* from respiratory illness?

A few small studies have investigated whether elderberry has an effect on cold and flu symptoms in adults and children. Some of the latest research shows that elderberry might reduce the duration and severity of upper respiratory symptoms. However, the largest study, which included both children and adults, showed no benefit of elderberry on either duration or severity of flu symptoms. More research is needed to understand whether elderberry has any benefit in the recovery from respiratory illness for adults and children.

Recently, elderberry has been fraudulently touted as a treatment and preventive agent for COVID-19. No research supports any of these claims. By FDA's definition, a dietary supplement cannot be "promoted on its label…as treatment, mitigation, prevention, or cure for a specific disease or condition." FDA has released warning letters to several companies found to be illegally marketing supplements as treatments for COVID-19.

Can elderberry supplements negatively affect your health?

Studies report no serious adverse effects from the use of elderberry. Complaints received by FDA during the last several years indicate that abdominal pain, nausea, and vomiting are among the most common adverse effects reported by consumers taking elderberry supplements. Some case reports of more severe adverse effects associated with elderberry, including acute pancreatitis, also exist.

Unripe elderberries, as well as the stems and leaves of the elder tree, contain cyanide-producing compounds that can be toxic if ingested. Cooking can remove these compounds, but many homemade elderberry recipes do not specify sufficient heat to fully evaporate all toxins, so these are more likely than commercial supplements to cause adverse effects.

Recently, reports of elderberry products adulterated with contaminants have increased. If you're considering an elderberry supplement, first consult your healthcare provider, and then make sure you've selected a product that has been third-party certified.

Are dietary supplements containing elderberry safe for children?

Limited scientific evidence supports the safety of elderberry in children. A few liquid elderberry extracts have been used in children ages 5–12 years for up to 5 days without adverse effects. Still, consumption of elderberry that hasn't been cooked adequately is associated with nausea, vomiting, and diarrhea in children. In addition, a recent report described pancreatitis in a child given elderberry supplements.

The bottom line about elderberry

- Research is inconclusive regarding the use of elderberry for immunity and illness recovery.
- No dietary supplement can be legally marketed as a treatment, prevention, or cure for any disease or condition, including flu, cold, and COVID-19.
- Elderberry is not prohibited for use by Service Members and will not cause a positive result on a routine military drug test.
- Talk with a healthcare provider before using any supplement containing elderberry or before giving an elderberry supplement to a child.
- Look for products displaying third-party seals such as BSCG, Informed Sport, NSF Sport, or USP.

Garlic as a dietary supplement for immune health

Garlic (*Allium sativum*) is a plant related to onions, leeks, and chives. Fresh garlic is commonly used to add flavor to foods. It also has a long history of use for a broad range of purported health benefits: from a natural antiseptic to cancer prevention. As a dietary supplement, garlic is commonly promoted for cardiovascular health and to reduce blood pressure and cholesterol. It's also marketed to support or boost the immune system, act as a "cold blaster," and offer support for the "cold and flu season."

There isn't enough evidence to show whether garlic as a dietary supplement can support or boost immune health.

Garlic's health benefits supposedly come from a sulfur compound called allicin (also responsible for garlic's odor and pungent taste). This compound is present in fresh, raw garlic, but the heat of cooking removes the allicin. Due to the strong odor and taste of raw garlic, garlic supplements might seem an appealing alternative to eating raw garlic.

Dietary supplement products sometimes list garlic as "standardized" to a specific allicin content, as an "aged garlic extract" (a process that removes the garlic odor), or as an amount equivalent to a fresh garlic bulb. The way in which garlic supplements are formulated varies, and questions remain regarding the actual health benefits of garlic in supplement form.

Can garlic supplements support or boost your immune health?

Very little research has been done to show that healthy individuals taking garlic dietary supplements throughout the cold and flu season experience fewer cold episodes or flu symptoms. Evidence is lacking to show whether you are at any less risk of getting sick during the winter months if you take such supplements on a daily basis. What would be considered an effective amount for any specific health benefit is currently unknown.

Can garlic supplements negatively affect your health and performance?

In general, dietary supplement products with garlic in amounts comparable to what you might consume in foods (up to 1–2 cloves a day) appear to be well tolerated by healthy adults. Common adverse effects (to either raw garlic or as a dietary supplement) include stomachache, body odor, bad breath, and nausea. There is some concern of possible increased risk of bleeding or allergic reactions. Garlic also might interact with certain medications (such as blood thinners), as well as other plant-based supplements, so talk with a healthcare professional before you take a garlic supplement.

The bottom line

There is insufficient evidence to support claims for garlic as a dietary supplement to support or boost immune health. Always speak with a healthcare practitioner before you use any dietary supplement, and always look for third-party seals on products. And remember, no dietary supplement can be legally marketed to diagnose, treat, cure or prevent any disease or health condition, including flu, colds, and COVID-19 (such as the "cold blaster" mentioned above). However, adding a bit of garlic to your meals is always a healthy option.

Vitamin and mineral supplements for immune health

A healthy, balanced diet is important to overall immune health. A variety of foods such as fruits, vegetables, whole grains, beans and legumes, nuts and seeds, low-fat dairy products, skinless poultry, and fish provide necessary vitamins and minerals for a healthy lifestyle. When you can't fill your plate with whole foods, when your diet is inadequate, or if your healthcare provider has found certain nutrient deficiencies, specific vitamin and mineral supplements can be useful. However, since the start of COVID-19, thousands of products are now promoted to support or boost your immunity. These products are accompanied by claims, including "daily immune support," "immune defense," and "immune boost." Here, OPSS breaks down the latest research on the most common vitamins and minerals in dietary supplements marketed with claims for immune health.

Some single-ingredient vitamin and mineral supplements might be useful for overall immune health, especially when you can't get enough of certain nutrients from your diet.

The most common vitamins and minerals listed on the labels of products marketed for immune health are vitamins A, B, C, D, E, and K, and the minerals calcium, magnesium, selenium, and zinc. Many products list such ingredients in combination, such as in multi-vitamin products, and sometimes with other types of ingredients, including botanicals. There is no clear evidence that various multi-ingredient products provide the claimed benefits for healthy individuals. The discussion below relates only to single-ingredient vitamin and mineral supplements marketed to support immune health.

Can any vitamin or mineral supplements support or boost immune health?

Vitamin C

Vitamin C is an essential vitamin that serves an important role in how the immune system functions. The recommended daily amount is 90 mg [milligrams] for men and 75 mg for women. That's equivalent to about a medium-size orange a day—an amount easy to get from various fruits and vegetables.

Research as far back as the early 1970s suggested that 2 grams a day or more of vitamin C could help fight the common cold. Today the established tolerable upper limit (the amount not to exceed) is 2 grams a day for adults. Too much might lead to stomachaches and diarrhea. The latest research shows that taking a vitamin C supplement won't necessarily reduce the risk of developing a cold. However, a vitamin C supplement might help during times of extreme physical activity, especially during winter. Studies involving competitive swimmers and marathon runners, for example, report less-severe symptoms or fewer days sick with an upper-respiratory illness, such as the common cold, when taking up to 1 gram per day of vitamin C.

Vitamin D

Vitamin D is essential to maintain bone and overall health. It also helps build immunity. It is found in foods such as fish, eggs, and fortified milk. Vitamin D is also produced naturally in the body when the skin is exposed to sunlight . However, it's challenging to get enough sunlight during the winter months or for a shift worker. It's also challenging for those who usually wear clothes that cover their skin, don't like the outdoors, or have dark skin. The daily amount needed depends on age, but the amount recommended for adults is 600 IU (or 15 µg [micrograms] per day), which is the amount in about five cups of milk fortified with vitamin D.

Unfortunately, vitamin D insufficiency is common in the U.S., so it's important to get checked by a physician from time to time. Some studies have shown that those with lower levels of vitamin D are more likely to report having a common cold or an upper respiratory tract infection than those with "normal" levels. However, more research is needed to determine whether taking a vitamin D supplement might protect against getting such illnesses. On the other hand, too much vitamin D is harmful and can be toxic, which could lead to nausea, vomiting, or even kidney stones. Even more serious health issues such as kidney failure and, in rare cases, death could occur. So before taking a vitamin D supplement, check with a healthcare provider to determine if you need one and how much is needed.

During the COVID-19 pandemic, vitamin D was touted as one of the top "immune boosting" strategies. However, no reliable scientific evidence supports any claim that vitamin D can improve immunity to COVID-19.

Zinc

Zinc is an essential mineral that, like vitamin D, helps support your immune system. It's found in foods such as meat, shellfish, and legumes such as chickpeas, lentils, and beans. Many breakfast cereals are also fortified with zinc. The daily amount adults need is 11 mg for men and 8 mg for women. That's equivalent to about one pound of ground turkey or three ounces of lean beef. Zinc is also available as a dietary supplement. Product labels list various forms, such as elemental zinc, zinc picolinate, zinc citrate, zinc acetate, zinc glycerate, and zinc monomethionine. Zinc is also available in other forms sold as over-the-counter cold remedies, including nasal sprays, but many of these are drugs or homeopathic products, rather than dietary supplements.

Some studies have shown that supplemental zinc might reduce the occurrence, frequency, or length of respiratory illnesses such as the common cold or influenza if taken when exposed to physical or mental stressors during the winter season. Most adults tolerate zinc well in amounts below the tolerable upper limit of 40 mg per day. The most common adverse effects are stomachache, diarrhea, vomiting, and a metallic taste.

Other vitamins and minerals

No evidence is available to suggest that single-ingredient dietary supplements with vitamins A, B complex, E, or K, or the minerals calcium, magnesium, or selenium can support or boost your immune system. For individual fact sheets on these and other nutrients, visit the Office of Dietary Supplements, National Institutes of Health.

Bottom line

No dietary supplement should ever be a substitute for a nutritious, whole-food diet, and no dietary supplement can truly "boost your immunity." Always speak with a healthcare professional before taking any dietary supplement. And remember: No dietary supplement can be legally marketed to diagnose, treat, cure, or prevent any disease or health condition, including flu, colds, and COVID-19.

Boost your immunity from REAL FOODS

Are you looking for more vitamins and minerals to boost your immune health? **Consider these food sources!**

VITAMIN C

…is a natural antioxidant and anti-viral.

…can help protect your body from disease.

Foods high in vitamin C:

- Oranges
- Grapefruit
- Red and green peppers
- Broccoli
- Strawberries

MAGNESIUM

…is an important part of your body's immune response.

…helps protect cells from viral invasion.

Foods high in magnesium:

- Legumes
- Nuts
- Seeds
- Whole grains
- Green leafy vegetables

MULTIVITAMINS AND MINERALS

Fill your plate with whole foods to get all the vitamins, minerals, and other nutrients you need to boost your health!

DIETARY SUPPLEMENTS

…can be useful when you can't eat a well-balanced diet.

VITAMIN D

…can strengthen your immune system.

…can help reduce rates of respiratory infections.

Foods high in vitamin D:

- Fatty fish (such as trout, salmon, and tuna)
- Fortified milk
- Fortified plant-based milk alternatives
- Fortified breakfast cereals
- Some mushrooms

ZINC

…is an essential mineral for optimum immune function.

…can help fight off invading bacteria and viruses.

Foods high in zinc:

- Red meat
- Poultry
- Shellfish
- Beans
- Nuts

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Questions to ask yourself when considering a dietary supplement product

It's important to know what to look for on product labels and how to read them.

Does the label list any prohibited ingredients?

The OPSS website hosts the official **DoD Prohibited Dietary Supplement Ingredients** list. Service Members are not allowed to use any product with an ingredient on that list. If you are a Service Member, it's important to check a product's Supplement Facts label to ensure there are no ingredients on the DoD Prohibited List: https://www.opss.org/dod-prohibited-dietary-supplement-ingredients

Questions to help screen your supplement for safety

The **OPSS Scorecard** is an educational tool to help consumers make an informed choice. The Scorecard allows the consumer to quickly learn about and screen the safety of a dietary supplement product. The questions are intended to bring awareness to the consumer and encourage them to carefully examine a product label. A score of less than 4 is classified risky, whereas a score of 4 or more is considered less risky. You can try out the Scorecard below or use the interactive version at https://www.opss.org/screen-your-supplement-safety-read-label-your-supplement-and-answer-these-questions.

Key questions you can answer:	**Yes=1**	**No=0**
Is any one of these third-party certification seals on the product label? BSCG CERTIFIED DRUG FREE · INFORMED SPORT · NSF CERTIFIED SPORT · USP VERIFIED		
Are there **less than six ingredients** on the Supplement Facts label?		
Is the label free of the words p**roprietary, blend, matrix,** or **complex**?		
Can you **easily pronounce the name** of each ingredient on the Supplement Facts label?		
Is the amount of caffeine listed on the label **200 mg or less** per serving? (If caffeine is not listed, mark "1.")		
Is the label free of **questionable claims** or **statements**?		
Are all the % Daily Values (% DV) on the Supplement Facts label **less than 200%**? (If % DV is not listed, mark "0.")		
Total: Add up the "1s." 4 or more is okay. Less than 4 is a "no-go."		

Still have questions? If you still want to consider the supplement but would like to get more information about it, send OPSS a question through our Ask the Expert feature, where you can ask any question about dietary supplements and receive an evidence-based response.

Tips on how to talk to your healthcare provider about dietary supplements

Before deciding to take a dietary supplement, it's important to speak with a qualified healthcare provider. Below are some tips to consider when talking to your provider about dietary supplements.

- Be sure to tell your provider of any dietary supplements you're taking and any you are thinking of taking. (Provide actual pictures or have your supplements in hand.)
- Think about why you want to take a dietary supplement. Do you have a specific healthcare goal in mind, such as lowering your blood pressure, preventing infection, or managing pain? Understanding your goals can help your provider think about the best options for you.
- It's also important to ask your provider about potential side effects from any dietary supplement you are taking or considering taking.
- Tell your provider about any prescription medications you are currently taking.
- If the topic of dietary supplements is not an area of expertise for your provider, they will be able to direct you to other resources.

The Office of Dietary Supplements, National Institutes of Health, has "My Dietary Supplement and Medicine Record," a downloadable PDF that can be filled in with any dietary supplements, prescription drugs, or over-the counter medicines you take. Print, fill out, and share this record with your doctors, pharmacists, or other health professionals at all your visits.

https://ods.od.nih.gov/pubs/DietarySupplementandMedicineRecord.pdf

Take-home messages about immune supplements

There has been an increase in dietary supplement use since the start of the COVID-19 pandemic, and people see self-care as part of overall health now more than ever before. Immune health is critical to overall health. However, there are thousands of dietary supplement products on the market with various claims for immune health. Unfortunately, misinformation does exist, and it isn't easy to know where to go for reliable information or even what information sources to trust.

Before considering a dietary supplement to support or boost your immune health, keep these tips in mind.

- Know that dietary supplements are not intended to diagnose, treat, mitigate, cure, or prevent any disease or condition. Steer away from products with quick-fix claims or statements.
- Know that dietary supplements should never be a substitute for a healthy, nutritious diet.
- Visit OPSS.org for evidence-based information on dietary supplement ingredients.
- Visit the Office of Dietary Supplements, National Institutes of Health, Vitamin and Mineral Fact Sheets to understand recommended amounts and upper limits. Too much can be harmful.
- Check to make sure no dietary supplement ingredients on the Supplement Facts label are prohibited for use if you are a Service Member.
- Use the OPSS Scorecard to screen potential dietary supplements you might be interested in.
- Talk with a healthcare provider about the use of dietary supplements.
- If you still want to consider a supplement and get more information about it, send OPSS a question through our Ask the Expert feature.

Additional **resources**

Dietary Supplement Label Database

The Dietary Supplement Label Database (DSLD) includes information obtained from the labels of dietary supplement products marketed in the U.S., with a web-based user interface that provides ready access to label information. DSLD was developed to serve the research community, healthcare providers, and the public.

Federal Trade Commission

The Federal Trade Commission (FTC) oversees the marketing and advertising of dietary supplement products and works to prevent fraudulent, deceptive, and unfair business practices in the marketplace. FTC provides resources to help you spot and avoid deceptive marketing claims, such as supplements that claim to cure diseases.

Food and Drug Administration

The Food and Drug Administration (FDA) regulates both finished dietary supplement products and dietary ingredients. FDA provides information primarily related to the regulation of dietary supplements and dietary supplement ingredients, as well as safety alerts, recalls, warning letters to supplement manufacturers, a list of tainted products marketed as dietary supplements, and guidance documents for industry.

Human Performance Resources by CHAMP

Human Performance Resources by CHAMP (HPRC) is the military's go-to source on Total Force Fitness, a DoD framework for military wellness. HPRC provides evidence-based resources to Service Members, their families, and other members of the military community to help them stay healthy, mission-ready, and resilient.

Medline Plus: Drugs, Herbs, and Supplements

MedlinePlus is the world's largest medical library, produced by the National Library of Medicine (part of the National Institutes of Health). MedlinePlus offers easy-to-understand information about dietary supplements and herbal remedies, prescription drugs, and over-the-counter medicines.

National Center for Complementary and Integrative Health

The National Center for Complementary and Integrative Health (NCCIH) is the federal government's lead agency for scientific research on diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine. They offer information about common herbal and botanical supplements and other complementary, alternative, and integrative health practices.

Office of Dietary Supplements, National Institutes of Health

The Office of Dietary Supplements (ODS) is the lead federal government entity addressing the scientific exploration of dietary supplements. ODS has researched and developed fact sheets on common dietary supplements such as vitamins, minerals, and plant-based ingredients. The fact sheets are available in two versions, suitable for healthcare providers and consumers.

U.S. Department of Agriculture

The U.S. Department of Agriculture (USDA) provides leadership on topics such as food, agriculture, nutrition, and related issues based on public policy, the best available science, and effective management. Their nutrition.gov website provides a list of resources on dietary supplements, complementary and alternative medicines, herbs, and other dietary ingredients.

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