

Garlic and its healing properties

Garlic is well known as a natural health remedy that has long been used to treat various ailments. It is extremely easy to source in most countries and can be consumed cooked or fresh. It is most easily included in your food or can be eaten on its own. You don't need to limit yourself to fresh garlic either. Garlic powder or dried garlic flakes are just as effective and super easy to keep in the cupboard for everyday use.

It is recommended that adults consume no more than one clove two or three times a day and that children have one quarter to one half a clove, once or twice a day.

As you will see from the list below, as well as being a tasty addition to almost every cooked dish, garlic has some amazing abilities to help in our everyday lives. When used for medicinal purposes, garlic can help to treat a wide variety of ailments as well as making your dinner taste amazing.

Garlic has been found to assist babies to gain weight while they are in the womb. Next time you have a baby prepare to have garlic breath. Except if you have a history of large babies in which case maybe you want to skip the extra doses?

2. Garlic strengthens the immune system as well as helps to fight chest infections, coughs and congestion. In the winter months garlic is a great food to boost your immune system and ward off colds and flu. An old folk remedy is to eat a clove of garlic that has been dipped in honey at the first sign of a cold. Why not try it and see if it works for you?

3. Garlic contains high levels of iodine which makes it a very effective treatment for hyperthyroid conditions. Treatment with garlic has been shown to greatly improve this condition.

4. Scurvy is treated by vitamin C and garlic contains good levels of vitamin C too.

5. Popular folklore says that garlic is good for more than scaring hungry vampires away! Impotency has long been thought to benefit from doses of garlic, and treatment continues in many communities to this day. Why not try treating yourself with garlic for several months before you head off to the doctor for that Viagra prescription?

6. Cardiovascular disease can be reduced by ingesting garlic. LDL cholesterol is no friend of garlic and the aortic plaque deposits that gather on the walls of your body's veins can be reduced with the use of garlic too. Studies have shown the amazing benefits of taking garlic in relation to heart disease.

7. Fungal and bacterial vaginal infections are toast when treated with garlic! When crushed or bruised, garlic releases Allicin which is a sulphuric compound that is a natural antibiotic. WWI soldiers even apparently used crushed garlic on infected wounds suffered in battle. If you decide to take garlic in tablet form be sure to use powdered capsules. The processes used to create garlic tablets destroy the Allicin that is present.

8. Garlic is a great source of vitamin B6 which is needed for a healthy immune system and the efficient growth of new cells. Vitamin B6 can also assist with mood swings and improve your cheery disposition!

9. Garlic can aid in the prevention of multiple types of cancer. Bladder cancer, prostate cancer, breast cancer, colon cancer and stomach cancer have all been shown to have their tumors reduced when treated with garlic. Vitamin B6 is said to have cancer fighting abilities.

10. Garlic regulates blood sugar as it enhances the level of insulin in the blood. This may assist in the control of diabetes. Seek medical advice if you believe the use of garlic could help your condition.

A word of warning about consuming too much garlic; in large doses, garlic can be detrimental to your health and you should never take more than the recommended dosage. Also be aware that the properties of garlic actually get into your bloodstream which is why it is so effective in so many ways. What this does mean, however, is that when you sweat, garlic will leave your body through your pores. Many people who eat larger than normal amounts of garlic report increased body odour.

Also consider another area of your health when you choose to consume more garlic than your friends and family. If you are the only one taking increased doses of garlic, chewing a sprig or three of parsley after each garlic dose is recommended to combat the lovely aroma of garlic breath!

Those around you will thank you for it!

Original article
http://www.naturalblaze.com/2013/04/10-amazing-health-benefits-of-garlic.html

What's New and Beneficial About Garlic

You can increase the health benefits you receive from garlic by letting it sit after you've chopped it or crushed it. If you give your chopped/crushed garlic time to sit before changing its temperature (through cooking) or its pH (through the addition of acidic food like lemon juice), it will give the alliinase enzymes in garlic an opportunity to work on behalf of your health. For example, in the absence of chopping or crushing, research has shown that just 60 seconds of immediate microwaving will cause garlic to lose some of its cancer-protective properties. Immediate boiling of whole, intact garlic will also lower these properties, as will immediate addition of a very low-acid ingredient like lemon juice.
Some of garlic's unique components are most durable in food (versus processed extract) form. Allicin—one of garlic's most highly valued sulfur compounds—stays intact for only 2-16 hours at room temperature when it is present in purified (extracted) form. But when it's still inside of crushed garlic, allicin will stay viable for 2-1/2 days.
Garlic may help improve your iron metabolism. That's because the diallyl sulfides in garlic can help increase production of a protein called ferroportin. (Ferroportin is a protein that runs across the cell membrane, and it forms a passageway that allows stored iron to leave the cells and become available where it is needed.)
In addition to being a good source of selenium, garlic may be a more reliable source as well. Garlic is what scientists call a "seleniferous" plant: it can uptake selenium from the soil even when soil concentrations do not favor this uptake.
The cardioprotective benefits of garlic may partly rest on the production of hydrogen sulfide (H_2S) gas. Our red blood cells can take sulfur-containing molecules in garlic (called polysulfides) and use them to produce H_2S. This H_2S in turn can help our blood vessels expand and keep our blood pressure in check. Interestingly, some processed garlic extracts cannot be used by our red blood cells in the same way and do not seem to provide the same level of cardioprotection that is provided by garlic in food form.
While still in its very early stages, research suggests that garlic consumption may actually help to regulate the number of fat cells that get formed in our body. 1,2-DT (1,2-vinyldithiin) is one of the unique sulfur compounds in garlic that has long been recognized as having anti-inflammatory properties. But only recently have researchers discovered that some of our fibroblastic cells (called "preadipocytes") only evolve into full-fledged fat cells (called "adipocytes") under certain metabolic circumstances involving inflammatory system activity. 1,2-DT may be able to inhibit this conversion process. Since obesity is increasingly viewed by researchers as a chronic state of low-grade inflammation, the inflammation-related benefits of garlic's 1,2-DT may eventually be extended into the clinical area of obesity.

WHFoods Recommendations

With their unique combination of flavonoids and sulfur-containing nutrients, allium vegetables—such as garlic—belong in your diet on a regular basis. There's research evidence for including at least one serving of an allium vegetable—such as garlic—in your meal plan every day. If you're choosing garlic as your allium family vegetable, try to include at least 1/2 clove in your individual food portion. If you're preparing a recipe, we recommend at least 1-2 cloves.
Garlic is a wonderful seasoning to add aroma, taste, and added nutrition to your dishes. We often recommend using raw chopped or pressed garlic in many of our dishes to take advantage of the benefits derived from garlic. However, if you cannot tolerate raw garlic, you can add chopped garlic to foods while they are cooking. It is best to add it towards the end of the cooking process to retain the maximum amount of flavor and nutrition

Health Benefits

Whole books have been written about garlic, an herb affectionately called "the stinking rose" in light of its numerous therapeutic benefits. A member of the lily or *Allium* family, which also includes onions and leeks, garlic is rich in a variety of powerful sulfur-containing compounds including *thiosulfinates* (of which the best known compound is *allicin*), *sulfoxides* (among which the best known compound is *alliin*), and *dithiins* (in which the most researched compound is ajoene). While these compounds are responsible for garlic's characteristically pungent odor, they are also the source of many of its health-promoting effects.
More recent research has identified additional sulfur-containing compounds that are responsible for garlic's star status as a health-supporting food. These sulfur compounds include 1,2-vinyldithiin (1,2-DT), and thiacremonone. The hydrogen sulfide gas (H2S) that can be made from garlic's sulfides has also been the subject of great research interest. When produced and released from our red blood cells, this H2S gas can help dilate our blood vessels and help keep our blood pressure under control.
Finally, when thinking about the sulfur compounds in garlic, it is important to remember that sulfur itself is a key part of our health. Several research studies have noted that the average U.S. diet may be deficient in sulfur, and that foods rich in sulfur may be especially important for our health. In addition to all of the sulfur-related compounds listed above, garlic is an excellent source of manganese, a very good source of vitamin B6 and vitamin C and a good source of selenium.

Cardiovascular Benefits

Most of the research on garlic and our cardiovascular system has been conducted on garlic powder, garlic oil, or aged garlic extracts rather than garlic in food form. But despite this research limitation, food studies on garlic show this allium vegetable to have important cardioprotective properties. Garlic is clearly able to lower our blood triglycerides and total cholesterol, even though this reduction can be moderate (5-15%).
But cholesterol and triglyceride reduction are by no means garlic's most compelling benefits when it comes to cardioprotection. Those top-level benefits clearly come in the form of blood cell and blood vessel protection from inflammatory and oxidative stress. Damage to blood vessel linings by highly reactive oxygen molecules is a key factor for increasing our risk of cardiovascular problems, including heart attack and atherosclerosis. Oxidative damage also leads to unwanted inflammation, and it is this combination of unwanted inflammation and oxidative stress that puts our blood vessels

at risk of unwanted plaque formation and clogging. Garlic unique set of sulfur-containing compounds helps protect us against both possibilities—oxidative stress and unwanted inflammation. The following provides a list of sulfur-containing garlic's constituents that help lower our risk of oxidative stress:

alliin
allicin
allixin
allyl polysulfides (APS)*
diallyl sulfide (DAS)
diallyl disulfude (DADS)
diallyl trisulfide (DATS)
N-acetylcysteine (NAC)
N-acetyl-S-allylcysteine (NASC)
S-allylcysteine (SAC)
S-allylmercaptocysteine (SAMC)
S-ethylcysteine (SEC)
S-methylcysteine (SMC)
S-propylcysteine (SPC)
1,2-vinyldithiin (1,2-DT)
thiacremonone

* "Allyl polysulfides" is a general term that refers to a variety of compounds.

On the anti-inflammatory side of the equation, garlic's 1,2-vinyldithiin (1,2-DT) and thiacremonone are the compounds that have been of special interest in recent research. Both compounds appear to work by inhibiting the activity of inflammatory messenger molecules. In the case of thiacremonone, it is the inflammatory transcription factor called NFkappaB that gets inhibited. In the case of 1,2-DT, the exact anti-inflammatory mechanisms are not yet clear, even though the release of inflammatory messaging molecules like interleukin 6 (IL-6) and interleukin 8 (IL-8) by macrophage cells has been shown to be reduced in white adipose tissue by 1,2-DT. The combination of anti-inflammatory and anti-oxidative stress compounds in garlic makes it a unique food for cardiovascular support, especially in terms of chronic degenerative cardiovascular conditions like atherosclerosis.

In addition to the ability of garlic to help prevent our blood vessels from becoming blocked, this allium vegetable may also be able to help prevent clots from forming inside of our blood vessels. This cardiovascular protection has been linked to one particular disulfide in garlic called ajoene. Ajoene has repeatedly been shown to have anti-clotting properties. It can help prevent certain cells in our blood (called platelets) from becoming too sticky, and by keeping this stickiness in check, it lowers the risk of our platelets clumping together and forming a clot.

Equally impressive about garlic is its ability to lower blood pressure. Researchers have known for about 10 years that the allicin made from alliin in garlic blocks the activity of angiotensin II. A small piece of protein (peptide), angiotensin II helps our blood vessels contract. (When they contract, our blood is forced to pass through a smaller space, and the pressure is increased.) By blocking the activity of angiotensin II, allicin form garlic is able to help prevent unwanted contraction of our blood vessels and unwanted increases in blood pressure.

More recently, however, researchers have found that garlic supports our blood pressure in a second and totally different way. Garlic is rich in sulfur-containing molecules called polysulfides. It turns out that these polysulfides, once inside our red blood cells (RBCs), can be further converted by our RBCs into a gas called hydrogen sulfide (H2S). H2S helps control our blood pressure by triggering dilation of our blood vessels. When the space inside our blood vessels expands, our blood pressure gets reduced. (H2S is described as a "gasotransmitter" and placed in the same category as nitric oxide (NO) as a messaging molecule that can help expand and relax our blood vessel walls.)

Interestingly, our RBCs do not appear to use processed garlic extracts in the same way that they use polysulfides in food-form garlic.
Garlic's numerous beneficial cardiovascular effects are due to not only its sulfur compounds, but also to its vitamin C, vitamin B6, selenium and manganese. Garlic is a very good source of vitamin C, the body's primary antioxidant defender in all aqueous (water-soluble) areas, such as the bloodstream, where it protects LDL cholesterol from oxidation. Since it is the oxidized form of LDL cholesterol that initiates damage to blood vessel walls, reducing levels of oxidizing free radicals in the bloodstream can have a profound effect on preventing cardiovascular disease.
Garlic's vitamin B6 helps prevent heart disease via another mechanism: lowering levels of homocysteine. An intermediate product of an important cellular biochemical process called the methylation cycle, homocysteine can directly damage blood vessel walls.
The selenium in garlic can become an important part of our body's antioxidant system. A cofactor of *glutathione peroxidase* (one of the body's most important internally produced antioxidant enzymes), selenium also works with vitamin E in a number of vital antioxidant systems.
Garlic is rich not only in selenium, but also in another trace mineral, manganese, which also functions as a cofactor in a number of other important antioxidant defense enzymes, for example, *superoxide dismutase*. Studies have found that in adults deficient in manganese, the level of HDL (the "good form" of cholesterol) is decreased.

Anti-Inflammatory Benefits Across Body Systems

Our cardiovascular system is not the only body system that may be able to benefit from garlic's anti-inflammatory properties. There's preliminary evidence (mostly from animal studies, and mostly based on garlic extracts rather than whole food garlic) that our our musculoskeletal system and respiratory system can also benefit from anti-inflammatory compounds in garlic. Both the diallyl sulfide (DAS) and thiacremonone in garlic have been shown to have anti-arthritic properties. And in the case of allergic airway inflammation, aged garlic extract has been show to improve inflammatory conditions (once again in animal studies).
Even more preliminary is research evidence showing that some inflammatory aspects of obesity may be altered by sulfur-containing compounds in garlic. Specifically, there is one stage in development of the body's fat cells (adipocytes) that appears to be closely related to status of our inflammatory system. Fat cells cannot become fully themselves unless they are able to progress from a preliminary stage called "preadipocytes" to a final stage called "adipocytes." One of the sulfur compounds in garlic (1,2,-vinyldithiin, or 1,2-DT) appears able to lessen this conversion of preadipocytes into adipocytes, and the impact of 1,2-DT appears to be inflammation-related. Even though very preliminary, this research on 1,2-DT is exciting because obesity is increasingly being understood as a disease characterized by chronic, low level inflammation and our inflammatory status is precisely where garlic's 1,2-DT has its apparent impact.

Antibacterial and Antiviral Benefits

From a medical history standpoint, the antibacterial and antiviral properties of garlic are perhaps its most legendary feature. This allium vegetable and its constituents have been studied not only for their benefits in controlling infection by bacteria and viruses, but also infection from other microbes including yeasts/fungi and worms. (One particular disulfide in garlic, called ajoene, has been successfully used to help prevent infections with the yeast Candida albicans.) Very recent research has shown the ability of crushed fresh garlic to help prevent infection by the bacterium Pseudomonas aeruginosa in burn patients. Also of special interest has been the ability of garlic to help in the treatment of bacterial infections that are difficult to treat due to the presence of bacteria

that have become resistant to prescription antibiotics. However, most of the research on garlic as an antibiotic has involved fresh garlic extracts or powdered garlic products rather than fresh garlic in whole food form.
Overgrowth of the bacterium *Helicobacter pylori* in the stomach—a key risk factor for stomach ulcer—has been another key area of interest for researchers wanting to explore garlic's antibacterial benefits. Results in this area, however, have been mixed and inconclusive. While garlic may not be able to alter the course of infection itself, there may still be health benefits from garlic in helping to regulate the body's response to that infection.

Cancer Prevention

While not as strong as the research evidence for cruciferous vegetables, research on the allium vegetables—including garlic—shows that these vegetables have important anti-cancer properties. Interestingly, high intake of garlic (roughly translated as daily intake of this food) has been found to lower risk of virtually all cancer types except cancer of the prostate and breast cancer. However, moderate intake of garlic (roughly translated as several times per week) has been repeatedly found to lower risk of only two cancer types—colorectal and renal cancer. This difference between "high" versus "moderate" garlic intake may be a real difference that suggests we all need to eat more garlic if we want to maximize its cancer-related benefits. Or it may be a difference that is more related to research complications involving the options given to research participants when reporting their food intake. Still, garlic has a consistent track record with respect to general anti-cancer benefits, and there are good research reasons for classifying garlic as an "anti-cancer" food.
The allyl sulfides found in garlic may play a key role in its cancer-prevention benefits. These garlic compounds are able to activate a molecule called nuclear erythroid factor (Nrf2) in the main compartment of cells. The Nrf2 molecule then moves from the main compartment of the cell into the cell nucleus, where it triggers a wide variety of metabolic activities. Under some circumstances, this set of events can prepare a cell for engagement in a strong survival response, and in particular, the kind of response that is needed under conditions of oxidative stress. Under other circumstances, this same set of events can prepare the cell to engage in programmed cell death (apoptosis). When a cell recognizes that it has become too compromised to continue functioning in a healthy manner with other cells, it stops proceeding through its own life cycle and essentially starts to dismantle itself and recycle its parts. It's critical for a cell to determine whether it should continue on or shut itself down, because cells that continue on without the ability to properly function or communicate effectively with other cells are at risk of becoming cancerous. The ability of garlic's allyl sulfides to activate Nrf2 suggests that garlic may be able to help modify these all-critical cell responses and prevent potentially cancerous cells from forming.
One especially interesting area of research on garlic and cancer prevention involves meat cooked at high temperatures. Heterocyclic amines (HCAs) are cancer-related substances that can form when meat comes into contact with a high-temperature cooking surface (400°F/204°C or higher). One such HCA is called PhIP (which stands for 2-amino-1-methyl-6-phenylimidazopyridine). PhIP is thought to be one reason for the increased incidence of breast cancer among women who eat large quantities of meat because it is rapidly transformed into DNA-damaging compounds.
Diallyl sulfide (DAS), one of the many sulfur-containing compounds in garlic, has been shown to inhibit the transformation of PhIP into carcinogens. DAS blocks this transformation by decreasing the production of the liver enzymes (the Phase I enzymes CYP1A1, CYP1A2 and CYP1B1) that transform PhIP into activated DNA-damaging compounds. Of course, your best way to prevent formation of PhIP is not to bring your meat into contact with a 400°F/204°C cooking surface in the first place. But this area of research still bolsters our view of garlic as an allium vegetable with important cancer-preventive properties.

Garlic and Iron Metabolism

Recent research has shown that garlic may be able to improve our metabolism of iron. When iron is stored up in our cells, one of the key passageways for it to be moved out of the cell and returned into circulation involves a protein called ferroportin. Ferroportin is protein that runs across the cell membrane, and it provides a bridge for iron to cross over and leave the cell. Garlic may be able to increase our body's production of ferroportin, and in this way, help keep iron in circulation as it is needed.

Description

For a small vegetable, garlic (*Allium sativum*) sure has a big, and well deserved, reputation. And although garlic may not always bring good luck, protect against evil, or ward off vampires, characteristics to which it has been assigned folklorically, it is guaranteed to transform any meal into a bold, aromatic, and healthy culinary experience. Garlic is a member of the Lily family and is a cousin to onions, leeks and chives.

Garlic is arranged in a head, called a "bulb," which averages about 2 inches in height and diameter and consists of numerous small separate cloves. Both the cloves and the entire bulb are encased in paper-like sheathes that can be white, off-white, or have a pink/purple hue. Although garlic cloves have a firm texture, they can be easily cut or crushed. The taste of garlic is like no other—it hits the palate with a hot pungency that is shadowed by a very subtle background sweetness. While elephant garlic has larger cloves, it is more closely related to the leek and therefore does not offer the full health benefits of regular garlic.

Fresh, dried and powdered garlic are available in markets throughout the year, however, fresh varieties from California are in season from June through December.

History

Native to central Asia, garlic is one of the oldest cultivated plants in the world and has been grown for over 5000 years. Ancient Egyptians seem to have been the first to cultivate this plant that played an important role in their culture.

Garlic was not only bestowed with sacred qualities and placed in the tomb of Pharaohs, but it was given to the slaves that built the Pyramids to enhance their endurance and strength. This strength-enhancing quality was also honored by the ancient Greeks and Romans, civilizations whose athletes ate garlic before sporting events and whose soldiers consumed it before going off to war.

Garlic was introduced into various regions throughout the globe by migrating cultural tribes and explorers. By the 6th century BC, garlic was known in both China and India, the latter country using it for therapeutic purposes.

Throughout the millennia, garlic has been a beloved plant in many cultures for both its culinary and medicinal properties. Over the last few years, it has gained unprecedented popularity since researchers have been scientifically validating its numerous health benefits.

Currently, China, South Korea, India, Spain and the United States are among the top commercial producers of garlic.

How to Select and Store

For maximum flavor and nutritional benefits, always purchase fresh garlic. Although garlic in flake, powder, or paste form may be more convenient, you will derive less culinary and health benefits from these forms.
Purchase garlic that is plump and has unbroken skin. Gently squeeze the garlic bulb between your fingers to check that it feels firm and is not damp.
Avoid garlic that is soft, shriveled, and moldy or that has begun to sprout. These may be indications of decay that will cause inferior flavor and texture. Size is often not an indication of quality. If your recipe calls for a large amount of garlic, remember that it is always easier to peel and chop a few larger cloves than many smaller ones. Fresh garlic is available in the market throughout the year.
Store fresh garlic in either an uncovered or a loosely covered container in a cool, dark place away from exposure to heat and sunlight. This will help maintain its maximum freshness and help prevent sprouting, which reduces its flavor and causes excess waste. It is not necessary to refrigerate garlic. Some people freeze peeled garlic; however, this process reduces its flavor profile and changes its texture.
Depending upon its age and variety, whole garlic bulbs will keep fresh for about a month if stored properly. Inspect the bulb frequently and remove any cloves that appear to be dried out or moldy. Once you break the head of garlic, it greatly reduces its shelf life to just a few days.

Tips for Preparing and Cooking

Tips for Preparing Garlic

The first step to using garlic is to separate the individual cloves. An easy way to do this is to place the bulb on a cutting board or hard surface and gently, but firmly, apply pressure with the palm of your hand at an angle. This will cause the layers of skin that hold the bulb together to separate.
Peel garlic with a knife or alternatively, separate the skin from the individual cloves by placing a clove with the smooth side down on a cutting board and gently tapping it with the flat side of a wide knife. You can then remove the skin either with your fingers or with a small knife. If there is a green sprout in the clove's center, gently remove it since it is difficult to digest.
Chopping or crushing stimulates the enzymatic process that converts the phytonutrient alliin into allicin, a compound to which many of garlic's health benefits are attributed. In order to allow for maximal allicin production, wait at least 5 minutes before eating or cooking the garlic. Also observe this 5-minute "time out" period before adding any high acidic ingredient to the garlic (for example, lemon juice). Ingredients with a pH below 3.5 can also deactivate the enzymatic process.
Since crushing and chopping are the food preparation steps that activate garlic's enzymes, these steps can help you obtain many of garlic's special benefits. For example, research has shown that microwaving or boiling garlic in uncrushed, whole clove form will deactivate its enzymes, preventing these enzymes from working. For this reason, we recommend that you chop or crush the garlic cloves prior to heating. According to research on garlic preparation methods, it only takes 60 seconds of microwaving whole cloves to lessen some of garlic's health benefits. By contrast, many of garlic's health benefits (including its anti-cancer properties) are preserved if the whole cloves are crushed and allowed to sit for 10 minutes prior to cooking.

The Healthiest Way of Cooking Garlic

We recommend using raw garlic in many of our recipes. If it is a cooked dish you are preparing and you cannot tolerate raw garlic, add chopped garlic towards the end of the cooking time to retain maximum flavor and nutrition. Too much heat for too long will reduce the activity of the health-promoting sulfur compounds that have formed by letting it sit for 5-10 minutes; it will also make garlic bitter. Therefore expose garlic to heat for as little time as possible (5-15 minutes).
If you would like to combine garlic with oil, we recommend that you avoid high-temperature heating of this oil-garlic mixture. Keeping the heat at 250F/121C or lower will help preserve the health benefits of both the garlic and the oil. This same principle applies to the oven roasting of garlic bulbs themselves. We do not recommend the 350F/177C temperature range that you will find in many recipes and on many websites. Once again, a lower temperature is needed to help preserve health-protective compounds in garlic.

How to Enjoy

WHFoods Recipes That Feature Garlic

Mediterranean Dressing
We actually include garlic as an ingredient in so many of our recipes. To find these just go to the Recipe Assistant on the Recipes page and click on "garlic" in the "Food to Include" box.

A Few Quick Serving Ideas

P
urée fresh garlic, canned garbanzo beans, tahini, olive oil and lemon juice to make quick and easy hummus dip.
Healthy Sauté steamed spinach, garlic, and fresh lemon juice.
Add garlic to sauces and soups.
Purée roasted garlic, cooked potatoes and olive oil together to make delicious garlic mashed potatoes. Season to taste.

Individual Concerns

Garlic is not a commonly allergenic food, is not known to contain measurable amounts of oxalates or purines and is also not included in the Environmental Working Group's 2010 report "Shopper's Guide to Pesticides" as one of the 12 foods most frequently containing pesticide residues.
The Johns Hopkins Lupus Center has recently listed garlic as a food to be avoided by persons diagnosed with lupus (systemic lupus erythematosus, or SLE). While we have not seen any published research documenting lupus flare-ups with garlic intake, and while the Lupus Foundation of America has suggested on its website that "occasional use is cooking is not likely to cause significant problems for most people," we have heard directly from website visitors who have experienced problems in this area. If you are a person diagnosed with lupus, we recommend a consult with your healthcare provider to decide about inclusion or avoidance of garlic in your meal plan.

Do not store garlic in oil at room temperature. Garlic-in-oil mixtures stored at room temperature provide perfect conditions for producing botulism, regardless of whether the garlic is fresh or has been roasted.

Nutritional Profile

The sulfur compounds in garlic are perhaps its most unique nutrients. There are literally dozens of well-studied sulfur molecules in garlic, and virtually all of them have been shown to function as antioxidants. In addition, many provide us with anti-inflammatory benefits. The very presence of sulfur in some many different garlic compounds may also play an important role in our nourishment.
Additionally, garlic is an excellent source of manganese. It is also a very good source of vitamin B6 and vitamin C. In addition, garlic is a good source of thiamin (vitamin B1) as well as the minerals phosphorus, selenium, calcium, and copper.
For an in-depth nutritional profile click here: Garlic.

In-Depth Nutritional Profile

In addition to the nutrients highlighted in our ratings chart, an in-depth nutritional profile for Garlic is also available. This profile includes information on a full array of nutrients, including carbohydrates, sugar, soluble and insoluble fiber, sodium, vitamins, minerals, fatty acids, amino acids and more.

Original article
http://www.whfoods.com/genpage.php?tname=foodspice&dbid=60
By Dr. Mercola
If you want a simple way to increase the disease-fighting power of your meals, be generous with your use of high-quality herbs and spices. This applies year-round, but as cold and flu season nears, you may want to consider spicing things up more than you might normally.
There is no shortage of research showing that herbs and spices are among the healthiest you can consume. And they're a "secret weapon" that just about everyone can take advantage of, regardless of your budget.
Garlic in particular has long been hailed for its healing powers, especially against infectious diseases like cold and flu.
This is likely due to its immune boosting effects. Fresh garlic is also a potent antibacterial, antiviral and anti-fungal agent. But its therapeutic effects may go much further than that.

Garlic—An All-Around Health Boosting Herb

The featured article in Medical News Today[1] contains an impressive list of garlic's historical use as a natural medicine, and modern research to back up the wisdom of such antiquated claims. Green Med Info has also assembled a list of studies demonstrating more than 150 beneficial health effects of garlic! For example, studies show that regular consumption of (primarily raw) garlic:
May be effective against drug-resistant bacteria
Reduces risk for heart disease,[2] including heart attack[3] and stroke
Helps normalize your cholesterol[4] and blood pressure
Protects against cancer,[5, 6] including brain,[7] lung,[8] and prostate[9] cancer
Reduces risk of osteoarthritis[10]
It's thought that much of garlic's therapeutic effect comes from its sulfur-containing compounds, such as allicin, which are also what give it its characteristic smell. Other health-promoting compounds include oligosaccharides, arginine-rich proteins, selenium and flavonoids.[11]

Research[12] has revealed that as allicin digests in your body, it produces sulfenic acid, a compound that reacts with dangerous free radicals faster than any other known compound.
This is one of the reasons why I named garlic as one of the top seven anti-aging foods you can consume. Garlic is also a triple threat against infections, offering antibacterial, antiviral *and* antifungal properties. Not only is it effective at killing antibiotic-resistant bacteria, including MRSA, but it also fights yeast infections, viruses and parasites. Garlic must be fresh to give you optimal health benefits though.
The fresh clove must be crushed or chopped in order to stimulate the release of an enzyme called alliinase, which in turn catalyzes the formation of allicin.[13] Allicin in turn rapidly breaks down to form a number of different organosulfur compounds. So to "activate" garlic's medicinal properties, compress a fresh clove with a spoon prior to swallowing it, or put it through your juicer to add to your vegetable juice.
A single medium size clove or two is usually sufficient, and is well-tolerated by most people. The active ingredient, allicin, is destroyed within one hour of smashing the garlic, so garlic pills are virtually worthless. You also won't reap all the health benefits garlic has to offer if you use jarred, powdered or dried versions. Worse yet, at least two supermarket-brands containing garlic powder imported from China have been found to be contaminated with high levels of lead, arsenic and added sulfites, according to a recent article by PreventDisease.com.[14]
If you develop a socially offensive odor, just decrease the amount of garlic you're consuming until there is no odor present. If garlic makes you feel ill, this is probably your body's way of letting you know you should avoid it.

Garlic versus Tamiflu

Garlic may be particularly useful in preparation for cold and flu season, as it contains compounds capable of killing a wide variety of organisms, including viruses and bacteria that can cause earaches, colds and influenza. The respected research organization *Cochrane Database*—which has repeatedly reported that the science does not support the use of flu vaccine as a first-line defense—has also reviewed studies on the alternatives, such as the use of garlic.[15]
They found that those who took garlic daily for three months had fewer colds than those who took a placebo, and, when they did come down with a cold, the duration of illness was shorter—an average of 4.5 days compared to 5.5 days for the placebo group.
While this may not seem overly impressive, it's still better than the results achieved by the much-advertised flu drug Tamiflu. If taken within 48 hours of onset of illness, Tamiflu might reduce the duration of flu symptoms by about a day to a day and a half. That's the extent of what this $100-plus treatment will get you. It's *virtually identical* to just taking garlic on a regular basis!
However, some patients with influenza are at increased risk for secondary bacterial infections when on Tamiflu—a risk you won't take by eating garlic... Other adverse events of Tamiflu include pediatric deaths, serious skin reactions, and neuropsychiatric events, including suicide committed while delirious.

Cold and Flu—Symptoms of Vitamin D Deficiency

While colds and flus are caused by viral infections, compelling research suggests that your ability to "catch" these infections may actually be a symptom of an underlying vitamin D deficiency. Vitamin D is a potent antimicrobial agent, producing 200 to 300 different antimicrobial peptides in your body that kill bacteria, viruses and fungi. Suboptimal vitamin D levels will significantly impair your immune response, thereby making you far more *susceptible* to contracting colds, influenza, and other respiratory infections.
In the largest and most nationally representative study[16] of its kind to date, involving about 19,000 Americans, people with the lowest vitamin D levels reported having significantly more recent colds or cases of the flu -- and the risk was even greater for those with chronic respiratory disorders like asthma. At least five additional studies also show an inverse association between lower respiratory tract infections and vitamin D levels.
The best source for vitamin D is direct sun exposure. While it may not be possible to get enough sun exposure during the winter, every effort should be made to attain vitamin D from UVB exposure as there are many additional benefits from this route other than vitamin D. The next best option to sunlight is the use of a safe indoor tanning device. As a last resort, if neither natural nor artificial sunlight is an option, you may taken an oral vitamin D3 supplement. However, if you do, you need to be aware of the following:
Make sure you're taking the correct vitamin D supplement. You want D3, not D2, as the latter may end up doing more harm than good.

Based on the latest research from GrassrootsHealth, the average adult dose required to reach vitamin D levels of about 40 ng/ml is around 8,000 IU's of vitamin D3 per day. For children, many experts agree they need about 35 IU's of vitamin D per pound of body weight.

Get your vitamin D serum level checked at regular intervals to make sure you're taking the appropriate dose to get within the therapeutic range of 50-70 ng/ml.

If you're taking high dose vitamin D supplements you also need to take vitamin K2—not K1 that is typically in vegetables as it will not work synergize with vitamin D. Vitamin K2 deficiency is actually what produces the symptoms of vitamin D toxicity, which includes inappropriate calcification that can lead to hardening of your arteries. The reason for this is when you take vitamin D, your body creates more vitamin K2-dependent proteins that shuttle the calcium into the appropriate areas. Without vitamin K2, those proteins remain inactivated, so the benefits of those proteins remain unrealized.

Four Factors That Undermine Your Immune System

Again, it's important to remember that both colds and various influenzas are caused by a wide variety of *viruses,* not bacteria. Hence, taking an antibiotic for your cold or flu will NOT do you any good whatsoever. Antibiotics *only* work on bacterial infections, such as sinus, ear and lung infections, including bronchitis and pneumonia. The latter two are potential secondary infections that can develop from a serious bout of cold or flu, so you do want to keep an eye out for signs and symptoms of such bacterial infections.

At the end of this article, you'll find some guidelines to help you decide when it would be prudent to see a doctor.

Now, the most common way cold and flu viruses are spread is via hand-to-hand contact, so the easiest way to cut down your risk is to frequently wash your hands (see next section below). However, the key to remember is that being exposed to a cold virus does not mean that you're destined to get sick. Again, whether or not you'll actually get sick is primarily dependent on the functioning of your immune system. If your immune system is operating at its peak, it should actually be quite easy for you to fend off the virus without ever getting sick.

As discussed above, vitamin D deficiency is a major factor that will depress your immune function, leaving the door open to invading viruses. Other lifestyle factors that can depress your immune system, alone or in combination, include:

Eating too much sugar/fructose and grains. Sugar in all its forms takes a heavy toll on your immune system. One of the ways it does this is by unbalancing your gut flora. Sugar is "fertilizer" for pathogenic bacteria, yeast, and fungi that can set your immune system up for an assault by a respiratory virus. Remember, 80 percent of your immune system lies in your gastrointestinal tract, which is why limiting your sugar intake is CRUCIAL for optimizing your immune system.

It would be wise to limit your total fructose consumption to below 25 grams a day if you're in good health, or below 15 grams a day if you have high blood pressure, diabetes, heart disease, or are insulin resistant or are trying to recover from an acute illness like the flu.

Lack of sleep. If you aren't getting enough restorative sleep, you'll be at increased risk for a hostile viral takeover. Your immune system is also the most effective when you're not sleep-deprived, so the more rested you are the quicker you'll recover. You can find 33 guidelines for a better night's sleep here.

Insufficient exercise. Regular exercise is a crucial strategy for increasing your resistance to illness. There is evidence that regular, moderate exercise can reduce your risk for respiratory illness by boosting your immune system. In fact, one study[17] found that people who exercised regularly (five or more days a week) cut their risk of having a cold by close to 50 percent. And, in the event they did catch a cold, their symptoms were much less severe than among those who did not exercise.

Exercise likely cuts your risk of colds so significantly because it triggers a rise in immune system cells that can attack any potential invaders. Each time you exercise you can benefit from this boost to your immune system. It can also help boost your immune system acutely, by increasing your body temperature. This helps kill off invading pathogens, similarly to the fever your body produces when sick.

Using ineffective strategies to address stress. Emotional stressors can also predispose you to an infection while making cold symptoms worse. Finding ways to manage daily stress as well as your reactions to circumstances beyond your control will contribute to a strong and resilient immune system. Effective strategies include a variety of energy psychology tools, such as the Emotional Freedom Technique (EFT).

Other All-Natural Strategies That Send Pathogens Packin'

Frequently washing your hands with soap and water is one of the easiest ways to wipe out germs and viruses and reduce your chances of becoming sick. Don't make the mistake of using antibacterial cleansers, as their

widespread use contributes to strains of resistant bacteria, or "superbugs" that render antibiotics useless.

Besides, research[18] has shown that people who use antibacterial soaps and cleansers often develop a cough, runny nose, sore throat, fever, vomiting, diarrhea and other symptoms just as often as people who use plain soap and water. There's no real justification for using an antibacterial soap when plain soap is safer, and just as effective.

Another strategy that many report success with is to administer a few drops of 3% hydrogen peroxide (H_2O_2) into your ear canal. Quite frequently, people claim to have been able to cure a cold or flu within 12 to 14 hours this way. Simply put a few drops into your ear; wait until the bubbling and stinging subside (usually 5 to 10 minutes), then drain onto a tissue and repeat with the other ear.

There are also a number of supplements and simple treatments that can be beneficial for colds and influenza, but I believe they should only be used as adjuncts to an otherwise healthy diet and lifestyle. For detailed instructions that will help set you the right path can be found in my optimized nutrition and lifestyle plan.

Some of the more helpful options for cold and flu—besides vitamin D and garlic discussed above--include:

Zinc: Research on zinc has shown that when taken within one day of the first symptoms, zinc can cut down the time you have a cold by about 24 hours. Zinc was also found to greatly reduce the severity of symptoms. Suggested dosage: up to 50 mg/day. Zinc was *not* recommended for anyone with an underlying health condition, like lowered immune function, asthma or chronic illness.	**Vitamin C:** A very potent antioxidant; use a natural form such as acerola, which contains associated micronutrients. You can take several grams every hour till you are better unless you start developing loose stools.
Olive leaf extract: Ancient Egyptians and Mediterranean cultures used it for a variety of health-promoting uses and it is widely known as a natural, non-toxic immune system builder.	**Propolis:** A bee resin and one of the most broad-spectrum antimicrobial compounds in the world; propolis is also the richest source of caffeic acid and apigenin, two very important compounds that aid in immune response.
Oregano Oil: The higher the carvacrol concentration, the more effective it is. Carvacrol is the most active antimicrobial agent in oregano oil.	**Medicinal mushrooms**, such as shiitake, reishi, and turkey tail.
A tea made from a combination of elderflower, yarrow, boneset, linden, peppermint and ginger; drink it hot and often for combating a cold or flu. It causes you to sweat, which is helpful for eradicating a virus from your system.	**Echinacea** is one of the most widely used herbal medications in Europe to combat colds and infections. One review of more than 700 studies found that using Echinacea can reduce your risk of catching cold by as much as 58 percent.

When Should You Call Your Physician?

Generally speaking, if you have a *cold,* medical care is not necessary. Rest and attention to the lifestyle factors noted above—particularly the admonition to avoid sugar—will help you to recover quickly and, if you stick to them, will significantly reduce your chances of catching another cold anytime soon.

Getting back to garlic for a moment, a previous article by PreventDisease.com[19] gives instructions for a garlic soup that can help destroy most viruses and help you recover a little quicker. Ideally though, you'd want to incorporate immune-boosting diet- and lifestyle strategies as soon as possible to *prevent* illness in the first place.

So, when should you call your doctor?

Sinus, ear, and lung infections such as bronchitis and pneumonia CAN be bacterial however, and if so, may respond to antibiotics. If you develop any of the following symptoms, these are signs you may be suffering from a bacterial infection rather than a cold, and you should call your physician's office:

Fever over 102 degrees Fahrenheit (38.9 degrees Celsius)

Ear pain

Pain around your eyes, especially with a green nasal discharge