

## Blood Pressure Support Supplement Program

By Geoff D'Arcy, Lic.Ac., D.O.M.

According to the American Heart Association, high blood pressure (hypertension) killed 44,435 Americans in 1998 and contributed to the deaths of about 210,000.



- Approximately 50 million Americans have high blood pressure. (Based on National Health and Nutrition Examination Survey III [NHANES III, 1988-91] Centers for Disease Control and Prevention/National Center for Health Statistics.)
- One in five Americans (and one in four adults) has high blood pressure.
- Of those people with high blood pressure, 31.6% don't know they have it.
- Of all people with high blood pressure, 14.8% are not on a therapy (special diet or drugs), 26.2% are on inadequate therapy, and 27.4% are on adequate therapy.

known; however, high blood pressure is easily detected and usually controllable.

- From 1988 to 1998 the death rate from high blood pressure increased 16.0% (11.0%). (The first percentage, is age-adjusted to the year 2000 population standard. The second, in parentheses, is age-adjusted to the 1940 standard.)
- Non-Hispanic blacks are more likely to suffer from high blood pressure than are non-Hispanic whites.
- People with lower educational and income levels tend to have higher levels of blood pressure.
- In 1998 the death rates per 100,000 population from high blood pressure were 13.9 (7.0) for white males, 51.8 (32.0) for black males, 13.0 (5.2) for white females and 42.9 (22.8) for black females. (The first death rate, is age-adjusted to the year 2000 population standard. The second, in parentheses, is age-adjusted to the 1940 standard.)

**Who Is Likely To Develop High Blood Pressure?** Anyone can develop high blood pressure, but some people are more susceptible than others. For example, high blood pressure is more common--it develops earlier and is more severe--in African-Americans than in Whites. In the early and middle adult years, men have high blood pressure more often than women. But as men and women age, the reverse is true. More women after menopause have high blood pressure than men of the same age. And the number of both men and women with high blood pressure increases rapidly in older age groups. More than half of all Americans over age 65 have high blood pressure.

**How Can You Prevent High Blood Pressure?** Everyone, regardless of race, age, sex, or heredity, can help lower his or her chance of developing high blood pressure. Here's how:

1. Maintain a healthy weight, lose weight if you are overweight
2. Be more physically active
3. Choose foods lower in salt and sodium
4. If you drink alcoholic beverages, do so in moderation. Another important measure for your health is to not smoke: while cigarette smoking is not directly related to high blood pressure, it increases your risk of heart attack and stroke.



## SUPPLEMENTATION PROGRAM

### I) High Normal B.P. (130-139 /85-89):

- **HEART-EASE FORMULA:** 2 capsules, 3 times daily.
- **Multi-Vitamin Ultra Preventive X:** as directed.

### II) Mild Hypertension (140-160/95-104):

#### Add:

- **Vitamin C, 500-1000 mgs.:** 2 capsules, twice daily.
- **Vitamin E, 400 IUs:** 1 capsule, twice daily.
- **GREEN POWER:** 4-8 capsules per day, or 1 scoop of powder.
- **Chelated Magnesium:** As directed.
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### III) Moderate Hypertension (140-180/105-114):

#### Add:

- **POWER MUSHROOMS FORMULA:** 2 capsules, 3 times daily.
- **Co- Enzyme Q10, 50 mgs.:** 1 capsule, twice daily.

## SUPPLEMENTS:

**HEART-EASE FORMULA:** **Coleus rhizome** is an Indian herb that became well known twenty years ago when its ingredient, forskolin, was found to lower blood pressure and act as a tonic for heart and brain circulation, congestive heart failure, and other cardiomyopathies. **Coleus forskolii**, an ingredient in **Heart-Ease Formula**, has been used in Ayurvedic medicine for heart disease, spasmodic pain, painful micturition and convulsions. The pharmacological properties of coleonol, a diterpene, isolated from **Coleus forskolii** were investigated. Its predominant effect is to lower the blood pressure.<sup>4</sup> One non-randomized study on humans has shown that an extract of coleus called forskolin can reduce blood pressure and improve heart function in people with cardiomyopathy.<sup>5</sup> Forskolin was given by injection in this study; it is unknown if oral coleus extracts would have the same effect. Coleus extracts standardized to 18% forskolin are available, and 50–100 mg. can be taken two to three times per day.

**Hawthorn** is considered “food for the heart” by European herbalists. Its main medical benefit is due to its bioflavonoid content, which relaxes and dilates the arteries. Several German studies have confirmed improved heart rate and lowered blood pressure with its use. The Commission E - an expert committee on herbal remedies established by Germany's Federal Institute for Drugs and Medical Devices - has approved hawthorn leaf and flower to relax heart muscle and improve circulation to the heart; it may be used to treat cardiac insufficiency. Herbs like **ginkgo and hawthorn** have been shown to increase the blood flow to the heart muscles, reducing angina and arrhythmia.

These two contain strong antioxidants that help prevent and reduce damage to the blood vessels and so are used alongside the **Chinese formula, Gui Pi Tang**, which modern Chinese use to support and nourish the heart in congestive heart disease. **Ginseng's** saponins have been shown to have a healthy effect on cholesterol and platelets. **Polygala** prevents plaque formation and may lower blood fat levels. **Garlic** promotes a healthy immune system and proper cholesterol levels, and supports healthy blood pressure. **Garlic** has the ability to lower blood pressure. A study in the British Journal of Clinical Practice reported that garlic supplements were also able to bring about a significant reduction in blood pressure in patients having mild hypertension. Numerous studies have suggested that garlic lowers blood pressure modestly. In one 12-week study, 47 people with blood pressures averaging 171/101 were treated with either 600 mg of garlic powder daily or placebo.(2) The results showed a statistically significant drop of 11% in systolic pressure and 13% in diastolic pressure compared to only 5% and 4%, respectively, in the placebo group. A recent study suggested that garlic's blood pressure-lowering effect might escalate over time. In this 16-week open trial, 80 patients with high blood pressure were given either a standardized garlic preparation or garlic oil.(3) In those taking the standardized preparation, systolic pressure dropped by 10% after 4 weeks and by 19% after 16 weeks. Diastolic pressure showed similar progressive decreases. The amount of standardized garlic preparation given was 600 mg 3 times daily (an unusually high dose) standardized to 1.3% allicin.

**Vitamin C** Studies show that the higher the vitamin C levels in the blood, the lower the total cholesterol and triglycerides, and the higher the HDL. **Vitamin E** is a blood thinner and powerful antioxidant, and it helps to protect the arteries from plaque build-up. **Folic Acid** 400 micrograms, **Vitamin B-6** 100 milligrams, and **Vitamin-B12** daily helps reduce homocysteine levels. Research in the last decade has linked homocysteine to increased risk of heart disease, stroke, and other diseases involving blood vessels. Unconverted homocysteine can build up, irritating the blood vessels and possibly causing blockages.

**Extra Magnesium** 400 mg. daily in three different forms: oxide, citrate, and alpha ketoglutate will dramatically reduce your blood pressure level. The "Honolulu Heart Study" consistently showed that the lower the blood magnesium levels, the higher the risk of heart attack and the development of high blood pressure Magnesium can also lower cholesterol! Magnesium helps to relax the muscles surrounding the blood vessels causing a relaxation and opening of the blood vessel.

**Co-Enzyme Q10** is a vitamin-like enzyme that is necessary for the production of cellular energy. Many patients with cardiovascular disease are deficient in Co-Q10.

**GREEN POWER FORMULA:** contains **alfalfa leaf, wheat grass, oat grass, barley grass, spirulina, chlorella, dulse, parsley, spinach, kale, dandelion, broccoli, and cilantro**. Chlorophyll is the life blood of all plants, converting sunshine into life-supporting nutrients. Chlorophyll-rich plants are known to be immune-enhancing, stop bacterial growth, remove toxins, counteract inflammation, build the blood, renew tissues, improve the liver function and activate enzymes. This formula combines chlorophyll-rich plants from the sea and land. The aquatic micro-algae, spirulina and chlorella, contain twice the chlorophyll of any land plant. They were among the first organisms on the planet, with over three and a half billion years of supporting life. In addition to chlorophyll, micro-algae contain the highest sources of protein, beta-carotene and nucleic acid of any animal or plant food. Kelp, a sea vegetable, binds heavy metals, pesticides, and such carcinogens as PCBs, and carries them safely out through the intestines. Kelp also nourishes and protects the thyroid. Wheat and barley grass can pick up as many as 90 minerals from the estimated 102 found in rich soil. It has a high nutrient content with hundreds of unique digestive enzymes not available in such concentrations in other plants. These enzymes help slow cellular deterioration and mutation and are beneficial in degenerative diseases and in reversal of the aging process.



**POWER MUSHROOMS:** Medicinal mushrooms, long used by TCM for thousands of years to stimulate the immune system, are now coming into their own in the West with the aid of scientific research. Conventional scientific databases contain hundreds of references to “power” mushrooms. **Reishi** relaxes the central nervous system helping sleep and anxiety. It deeply nourishes the immune system, boosting the life span of white blood cells; its polysaccharides are anti-tumor, anti-viral and boost T-cell function. **Maitake** is anti-diabetic and anti-viral. Mushrooms stimulate balance and rejuvenation in the body.

**Let's look more closely at the four rules to prevent high blood pressure and for keeping a healthy heart:**

**1) Maintain a healthy weight, lose weight if you are overweight.** Being overweight can make you two to six times more likely to develop high blood pressure than if you are at your desirable weight. No matter where the extra weight is, you can reduce your risk of high blood pressure by losing weight. Even small amounts of weight loss can make a big difference in helping to prevent high blood pressure. Losing weight, if you are overweight and already have high blood pressure, can also help lower your pressure. Choose foods high in starch and fiber. Foods high in starch and fiber, like those shown in the table, are excellent substitutes for foods high in fat. They are lower in calories than foods high in fat. These foods are also good sources of vitamins and minerals. Fruits, vegetables, whole-grain cereals, pasta and rice, whole-grain breads, dry peas and beans. **FOODS HIGH IN STARCH AND/OR FIBER** Note: Use the food label to choose breads and cereals lower in sodium.

**2) Increase physical activity.** There's more to weight loss than just eating less. Another important ingredient is increasing physical activity, which burns calories. Cutting down on fat and calories combined with regular physical activity can help you lose more weight and keep it off longer than either way by itself. Check the table below to see how many calories you can burn during different activities. **Get up from that computer and be more physically active!** Besides losing weight, there are other reasons to be more active: According to the National Heart, Lung and Blood Institute being physically active can reduce your risk for heart disease, help lower your total cholesterol level and raise HDL-cholesterol (the "good" cholesterol that does not build up in the arteries), and help lower high blood pressure. And people who are physically active have a lower risk of getting high blood pressure--20 to 50% lower--than people who are not active. Even light activities, if done daily, can help lower your risk of heart disease.

**3) Choose Foods Lower in Salt and Sodium.** Often, if people with high blood pressure cut back on salt and sodium, their blood pressure falls. All Americans, especially people with high blood pressure, should eat no more than about 6 grams of salt a day, which equals about 2,400 milligrams of sodium. That's about 1 teaspoon of table salt. But remember to keep track of ALL salt eaten--including that in processed foods and added during cooking or at the table. Americans eat 4,000 to 6,000 milligrams of sodium a day, so most people need to cut back on salt and sodium. See the table below for the range of sodium in some types of foods.

**4) Drink in moderation.** Drinking too much alcohol may also lead to the development of high blood pressure. So to help prevent high blood pressure, if you drink alcohol, limit how much you drink to no more than 2 drinks a day. The "Dietary Guidelines for Americans" recommend that for overall health women should limit their alcohol to no more than 1 drink a day.

All Americans, especially people with high blood pressure, should eat no more than about 6 grams of salt a day, which equals about 2,400 milligrams of sodium. That's about 1 teaspoon of table salt. But remember to keep track of **ALL** salt eaten--including that in processed foods and added during cooking or at the table. Americans eat 4,000 to 6,000 milligrams of sodium a day, so most people need to cut back on salt and sodium. See the table below for the range of sodium in some types of foods.



**SPICE-IT-UP! , DON'T SALT-IT -UP:  
 NON-SALT SEASONINGS TO ENHANCE FOOD FLAVOR**

It is frightening how much salt gets added to processed foods e.g. Canned and dehydrated soups, 1 cup 600-1,300mgs, Canned and frozen main dishes, 8 oz. 500-1,570mgs

**Meat, Poultry and Fish**

- Beef - Bay leaf, marjoram, nutmeg, onion, pepper, sage, thyme
- Lamb - Curry powder, garlic, rosemary, mint
- Pork - Garlic, onion, sage, pepper, oregano
- Veal - Bay leaf, curry powder, ginger, marjoram, oregano
- Chicken - Ginger, marjoram, oregano, paprika, poultry seasoning, rosemary, sage, tarragon, thyme
- Fish - Curry powder, dill, dry mustard, lemon juice, marjoram, paprika, pepper Vegetables
- Carrots - Cinnamon, cloves, marjoram, nutmeg, rosemary, sage
- Corn - Cumin, curry powder, onion, paprika, parsley
- Green Beans - Dill, curry powder, lemon juice, marjoram, oregano, tarragon, thyme
- Greens - Onion, pepper
- Peas - Ginger, marjoram, onion, parsley, sage
- Potatoes - Dill, garlic, onion, paprika, parsley, sage
- Summer Squash - Cloves, curry powder, marjoram, nutmeg, rosemary, sage
- Winter Squash - Cinnamon, ginger, nutmeg, onion
- Tomatoes - Basil, bay leaf, dill, marjoram, onion, oregano, parsley, pepper

**SODIUM IN FOODS**

(In Milligrams)

Source: Adapted from Home and Garden Bulletin 253-7, United States Department of Agriculture, July 1993

**MEAT, POULTRY, FISH, AND SHELLFISH**

- Fresh meat (including lean cuts of beef, pork, lamb and veal) poultry, finfish, cooked, 3 oz. (less than 90)
- Shellfish, 3 oz. (100-325)
- Tuna, canned, 3 oz (300)
- \* Sausage, 2 oz. (515)
- \* Bologna, 2 oz. (535)
- \* Frankfurter, 1-1/2 oz. (560)
- Boiled ham, 2 oz. (750)
- Lean ham, 3 oz. (1,025)

**EGGS**

- Egg white, 1 (55)
- \* Whole egg, 1 (65)
- Egg substitute, 1/4 cup = 1 egg (80-120)

**DAIRY PRODUCTS**

- Milk*
- \* Whole milk, 1 cup (120)
- Skim or 1% milk, 1 cup (125)
- Buttermilk (salt added), 1 cup (260)

### *Cheese*

\* Natural Cheese:

\* Swiss Cheese, 1 oz. (75)

\* Cheddar cheese, 1 oz. (175)

\* Blue Cheese, 1 oz. (395)

Low fat cheese, 1 oz. (150)

\* Process cheese and cheese spreads, 1 oz. (340-450)

Lower sodium and fat versions (read the label)

\* Cottage cheese (regular), 1/2 cup (455)

Cottage cheese (low fat), 1/2 cup (460)

### *Yogurt*

\* Yogurt, whole milk, plain, 8 oz. (105)

Yogurt, fruited or flavored, low fat or nonfat, 8 oz. (120-150)

Yogurt, nonfat or low fat, plain, 8 oz. (160-175)

## **VEGETABLES**

Fresh or frozen vegetables, or no salt added canned (cooked without salt), 1/2 cup (less than 70)

Vegetables, canned, no sauce, 1/2 cup (55-470)

\* Vegetables, canned or frozen with sauce, 1/2 cup (read the label)

Tomato juice, canned, 3/4 cup (660)

## **BREADS, CEREALS, RICE, PASTA, DRY PEAS AND BEANS**

### *Breads and Crackers*

Bread, 1 slice (110-175)

English muffin, 1/2 (130)

Bagel, 1/2 (190)

Cracker, saltine type, 5 squares (195)

\* Baking powder biscuit, 1 (305)

### *Cereals (Ready-to-eat)*

Shredded wheat, 3/4 cup (less than 5)

Puffed wheat and rice cereals, 1-1/2 to 1-2/3 cup (less than 5)

Granola-type cereals, 1/2 cup (5-25)

Ring and nugget cereals, 1 cup (170-310)

Flaked cereals, 2/3 to 1 cup (170-360)

### *Cereals (Cooked)*

Cooked cereal (unsalted) 1/2 cup (less than 5)

Instant cooked cereal, 1 packet=3/4 cup (180)

### *Pasta and rice*

Cooked rice and pasta (unsalted) 1/2 cup (less than 10)

\* Flavored rice mix, cooked, 1/2 cup (250-390)

### *Peas and beans*

Peanut butter (unsalted) 2 tbsp. (less than 5)

Peanut butter, 2 tbsp. (150)

Dry beans, home cooked (unsalted), or no salt added canned, 1/2 cup (less than 5)



Dry beans, plain, canned, 1/2 cup (350-590)

\* Dry beans, canned with added fat or meat, 1/2 cup (425-630)

## FRUITS

Fruits (fresh, frozen, canned), 1/2 cup (less than 10)

## FATS AND OILS

Oil, 1 tbsp. (0)

\* Butter (unsalted), 1 tsp. (1)

\* Butter (salted), 1 tsp (25)

Margarine (unsalted), 1 tsp. (less than 5)

Margarine (salted), 1 tsp. (50)

Imitation mayonnaise, 1 tbsp. (75)

\* Mayonnaise, 1 tbsp. (80)

Prepared salad dressings, low calorie, 2 tbsp. (50-310)

\* Prepared salad dressings, 2 tbsp. (210-440)

## SNACKS

*Popcorn, chips, and nuts*

Unsalted nuts, 1/4 cup (less than 5)

Salted nuts, 1/4 cup (185)

\* Unsalted potato chips and corn chips, 1 cup (less than 5)

\* Salted potato chips and corn chips, 1 cup (170-285)

Unsalted popcorn, 2 1/2 cups (less than 10)

Salted popcorn, 2 1/2 cups (330)

*Candy*

Jelly beans, 10 large (5)

\* Milk chocolate bar, 1 oz. Bar (25)

*Frozen desserts*

\* Ice cream, 1/2 cup (35-50)

Frozen yogurt, low fat or nonfat, 1/2 cup (40-55)

Ice milk, 1/2 cup (55-60)

## CONDIMENTS

Mustard, chili sauce, hot sauce, 1 tsp. (35-65)

Catsup, steak sauce, 1 tbsp. (100-230)

Salsa, tartar sauce, 2 tbsp. (85-205)

Salt, 1/6 tsp. (390)

Pickles, 5 slices (280-460)

Soy sauce, lower sodium, 1 tbsp. (600)

Soy sauce, 1 tbsp. (1030)

## CONVENIENCE FOODS

\*\* Canned and dehydrated soups, 1 cup (600-1,300)

\*\* Lower sodium versions (read the label)

\*\*\* Canned and frozen main dishes, 8 oz. (500-1,570)



\*\*\* Lower sodium versions (read the label)

\* Choices are higher in saturated fat, cholesterol, or both.

\*\* Creamy soups are higher in saturated fat and cholesterol.

\*\*\* Limit main dishes that have ingredients higher in saturated fat, cholesterol, or both.

Source: Adapted from

You can teach your taste buds to enjoy less salty foods. Here are a few tips:

**Check food labels for the amount of sodium in foods.**

**Buy fresh, plain frozen, or canned with "no salt added" vegetables.** Use fresh poultry, fish and lean meat, rather than canned or processed types.

**Use herbs, spices, and salt-free seasoning blends in cooking and at the table instead of salt.**

## Dietary Guidelines

Adopt a mostly vegetarian diet. Studies have shown that a vegetarian diet yields a low indication of hypertension, heart disease, obesity, and high cholesterol levels. Whole grains, legumes, soy bean products (tofu, tempeh, and miso), abundant fresh vegetables and fruits, meatless pasta dishes made from the flavorful varieties of non-traditional pastas available today. Maintain a healthy weight, lose weight if you are overweight. Also:

- Substitute red meats with fish and white meat; use soy based alternatives, decrease the number of eggs per week, use egg beaters or tofu, use low fat dairy products, substitute vegetable oils for butter, lard and other saturated fats, eat fruits and vegetables daily and cut down on all refined sugar and flour products, use no or low salt, and drink herbal teas, green tea, or vegetable juices instead of soft drinks and coffee.
- Eat more cold water fish and take 1 tablespoon of flaxseed oil daily. Salmon, mackerel, herring, halibut are good sources of omega-3 fatty acids. Flaxseed oil is a good source of alpha linolenic acid, an omega-3 oil that the body can convert to eicosapentaenoic acid (EPA).
- Eat 5 or more servings of a combination of vegetables and fruits. Numerous studies show that a diet high in carotene rich and flavonoid rich fruits and vegetables reduces the risk of heart disease and strokes. Green leafy vegetables, yellow-orange colored fruits and vegetables, such as carrots, apricots, mangoes, yams and squash. Red and purple vegetables and fruits such as tomatoes, red cabbage, berries, and plums. Legumes, grains and seeds are rich sources of carotenoids.
- Good sources of flavonoids include: citrus fruits, berries, onions, parsley, legumes, green tea and red wine.
- Increase the intake of fiber and complex carbohydrates by eating 6 or more servings per day of whole grain breads, cereals, and legumes.

**Exercise Guidelines** The American Heart Association recommends at least 20 minutes of aerobic exercise three times a week. Aerobic exercise is exercise that makes your heart beat faster. Good examples are brisk walking, jogging, and bicycling. If you are over 40 and out of shape, or if you have a history of heart problems, start slowly with moderate walking. Be more physically active. Consider gentle stretching, (Yoga or Tai Chi) to



alternate with aerobic exercise. At least 30 minutes a day, 5-7 days a week. Get up from that computer and be more physically active! Besides losing weight, there are other reasons to be more active: according to the National Heart, Lung and Blood Institute being physically active can reduce your risk for heart disease, help lower your total cholesterol level and raise HDL-cholesterol (the "good" cholesterol that does not build up in the arteries), and help lower high blood pressure. And people who are physically active have a lower risk of getting high blood pressure--20 to 50% lower--than people who are not active. Even light activities, if done daily, can help lower your risk of heart disease. Stop smoking and get physically active. Learn to manage your time effectively.

***If You Drink Alcoholic Beverages, Do So In Moderation.***

Drinking too much alcohol can raise your blood pressure. It may also lead to the development of high blood pressure. So to help prevent high blood pressure, if you drink alcohol, limit how much you drink to no more than 2 drinks a day. The "Dietary Guidelines for Americans" recommend that for overall health women should limit their alcohol to no more than 1 drink a day.

**Use a Relaxation Technique 20 minutes a day.**

**Move your bowels daily.**

**Maintain correct body weight.**

**REFERENCES:**

**Garlic**

- Silagy CA, et al. A meta-analysis of the effect of garlic on blood pressure. *J Hypertens.* 1994;12(4):463-468.
- Auer W, et al. Hypertension and hyperlipidemia: garlic helps in mild cases. *Br J Clin Pract Symp Suppl.* 1990;69:3-6.
- Santos O S De A, et al. Effects of garlic powder and garlic oil preparations on blood lipids, blood pressure and well-being. *Br J of Clin Res.* 1995;6:91-100. *Coleus*
- Dubey MP, Srimal RC, Nityanand S, Dhawan BN. Pharmacological studies on coleonol, a hypotensive diterpene from *Coleus forskohlii*. *J Ethnopharmacol.* 1981 Jan;3(1):1-13.
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• **Herbs.**

- Hawthorn- Commission E -- an expert committee on herbal remedies established by Germany's Federal Institute for Drugs and Medical Devices - has approved hawthorn leaf with flower to relax heart muscle and improve circulation to the heart; it may be used to treat cardiac insufficiency
- *Coleus forskohlii* an ingredient in "Hearts Ease Formula" has been used in Aurvedic medicine for heart diseases, spasmodic pain, painful micturition and convulsions. The pharmacological properties of coleonol, a diterpene, isolated from *Coleus forskohlii* were investigated. Its predominant effect is to lower the blood pressure (4) One non-randomized study on humans has shown that an extract of coleus called forskolin can reduce blood pressure and improve heart function in people with cardiomyopathy.<sup>(5)</sup>Forskolin was given by injection in this study; it is unknown if oral coleus extracts would have the same effect. Coleus extracts standardized to 18% forskolin are available, and 50-100 mg can be taken two to three times per day. Fluid extract can be taken in the amount of 2-4 ml three times per day. Most studies have used injected forskolin, so it is unclear if oral ingestion of coleus

extracts will provide similar benefits in the amounts recommended above.

- Garlic-garlic has an ability to lower blood pressure. A study in the *British Journal of Clinical Practice* reported that garlic supplements were also able to bring about a significant reduction in blood pressure in patients having mild hypertension. Numerous studies have suggested that garlic lowers blood pressure modestly. In one 12-week study, 47 people with blood pressures averaging 171/101 were treated with either 600 mg of garlic powder daily or placebo. (2) The results showed a statistically significant drop of 11% in systolic pressure and 13% in diastolic pressure compared to only 5% and 4%, respectively, in the placebo group. A recent study suggested that garlic's blood pressure-lowering effect might escalate over time. In this 16-week open trial, 80 patients with high blood pressure were given either a standardized garlic preparation or garlic oil. (3) In those taking the standardized preparation, systolic pressure dropped by 10% after 4 weeks and by 19% after 16 weeks. Diastolic pressure showed similar progressive decreases. The amount of standardized garlic preparation given was 600 mg 3 times daily (an unusually high dose) standardized to 1.3% allicin.
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  5. *Kramer W, Thormann J, Kindler M, Schlepper M. Effects of forskolin on left ventricular function in dilated cardiomyopathy. Arzneim Forsch 1987;37:364-7.*

## Minerals

Numerous animal studies have suggested that **magnesium** deficiency leads to hypertension. People with long-term hypertension appear to have at least a 15% deficit in magnesium levels. However, results of studies on the effect of supplemental magnesium on blood pressure have varied. It may depend on the form of magnesium used—studies showing benefit used magnesium oxide, while other studies showing no effect used a different form of magnesium. Other factors may also play a role. Overall, the benefit of magnesium appears to be slight. "Honolulu Heart Study," consistently showed that the lower the blood magnesium levels, the higher the risk of heart attack and the development of high blood pressure! 400 mg of magnesium daily in three different forms: oxide, citrate, and alpha ketoglutarate will dramatically reduce your blood pressure level. Magnesium can also lower cholesterol!

Also present in leafy greens and plants with lots of chlorophyll. See the 'Power Greens formula

\*The statements contained in this article have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

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