

Strategies to Lower Your Blood Pressure

High blood pressure, called hypertension, is often called a "silent killer" because high blood pressure usually has no obvious symptoms, while the stress of high blood pressure is negatively affecting your energy level and causing headaches, fatigue, heart disease and kidney disease.

Your Blood Pressure Explained

Blood pressure refers to the force of blood against the walls of the arteries. The top number is systolic pressure and measures blood pressure when the heart pumps. The bottom number is diastolic pressure and measures blood pressure when the heart rests.

Classification of Blood Pressure	
Ideal	<115/70 mm Hg
Normal	< 120/80 mm Hg
Pre-hypertension	120-139/80-89 mm Hg
Hypertension	≥ 140/90 mm Hg

Causes of Hypertension

1. Fluid retention increases blood volume which increases blood pressure. The kidney is responsible for maintaining fluid balance. Compromised kidney function results in high blood pressure. Since sodium causes water retention sodium also plays a role in fluid balance.
2. Increased blood vessel resistance. Healthy blood vessels are flexible and elastic. When vessels become rigid, resistance to the flow of blood occurs and blood pressure increases. Age, inflammation, and heart disease can cause the arteries to become less flexible.
3. Stress. Stress activates the sympathetic nervous system, causing blood vessels to become more rigid.

Risk Factors for Hypertension

- Insulin resistance
- Overweight
- Inactivity
- Excessive alcohol intake
- Smoking
- Genes (salt sensitivity is more likely in African-Americans)
- Excessive caffeine
- A diet low in potassium, magnesium and calcium
- Certain medications including steroids, birth control pills, decongestants, NSAIDS and diet pills
- Certain dietary supplements licorice root, ephedra, guarana, kola nut, yerba mate, ginseng and yohimbe

Complications of Hypertension

- Chronic inflammation
- Fatigue
- Headaches
- Plaque buildup in blood vessels
- Heart attack and stroke
- Heart failure
- Kidney failure and blindness

10 Strategies to Reduce Blood Pressure

1. Limit caffeine intake to less than 200 mg per day.
2. Limit alcohol intake. Consume less than 1-2 servings of alcohol per day. One serving of alcohol is 5 ounces wine, 12 ounces beer or 1.5 ounces alcohol.
3. To minimize sodium intake:
 - Limit processed foods such as canned soups, frozen foods and salty snacks.
 - Don't add salt to food.
4. Maintain a healthy weight by exercising regularly and eating right.
5. Practice stress-management every day. Meditation, yoga, breathing exercises and biofeedback are all relaxation techniques that can help lower blood pressure.
6. Don't smoke.
7. Exercise daily
8. Check your meds. Discuss your current medications and their risks of increasing blood pressure with your doctor.
9. Correct nutrient deficiencies in potassium, magnesium and calcium.
10. Follow the DASH diet. Visit www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf for more information.

Caffeine in common beverages	
Source	Amount
1 cup coffee	100 mg
1 ounce espresso	50 mg
1 cup tea	50 mg
12 ounce can caffeinated soda	35 mg
8 ounce energy drink	100

Strategies to Lower Your Blood Pressure

The DASH Diet for Lower Blood Pressure

The DASH diet promotes generous amounts of fruits and vegetables, beans and lentils, and low-fat or fat-free dairy products to provide adequate calcium, potassium and magnesium. The diet is also relatively low in fat and sodium. DASH researchers have shown that diets rich in potassium, calcium and magnesium, and low in sodium (2,400 mg or less), play an important role in lowering high blood pressure.

DASH Diet and Necessary Nutrients

Eat 8 to 10 servings of fruit and vegetables per day. All types, lots of color, fresh or frozen, raw or cooked. In addition to being nutrient dense and low in calories, which will help to maintain a healthy weight, vegetables and fruit contain antioxidants and minerals. Potassium is an important mineral, crucial for maintaining low blood pressure. You cannot supplement with potassium, it must be consumed through foods, such as bananas, dried apricots, cantaloupe, honeydew, beets, tomatoes, winter squash, lima beans and yogurt.

Choose low- or non-fat dairy foods. Eat yogurt with live active cultures daily, low fat milk occasionally and low fat cheese sparingly.

Limit animal protein to 6-10 ounces per day, emphasizing lean sources. Choose fish, shellfish, tofu, edamame and other plant proteins do not need to be limited.

Say no to salt. Those with salt sensitivity or a family history of hypertension may benefit from reducing salt to about one teaspoon a day (2,400 mg).

Use garlic, which has a modest effect on lowering blood pressure and may help relax blood vessels.

Eat small portions of nuts and seeds daily. A portion size is 1-2 tablespoons. All varieties contain antioxidants and will help lower blood pressure. Use them for snacks or sprinkle onto salads, cereal or yogurt.

Incorporate beans and lentils into your diet. Aim for 1/2 cup daily to see reductions in blood pressure, cholesterol, blood glucose and inflammation.

Eat plenty of fish. Include at least three servings of fish a week, emphasizing cold-water fish like wild Alaskan salmon and sardines, which are rich in omega-3 fatty acids. Take fish-oil supplements if you do not eat oily fish on a regular basis.

Take calcium and magnesium if your diet is lacking these minerals. Inadequate intake of both of these minerals has been associated with high blood pressure. Women should get between 1,000 and 1,200 mg of calcium a day from all sources, while men may want to get no more than 700 mg daily from all sources. Magnesium is found in beans, lentils, nuts and dark leafy greens. You may also consider taking 250-500 mg magnesium glycinate daily.

Take vitamin C. A supplement of this antioxidant vitamin has been shown to lower blood pressure in people with mild to moderate hypertension. Take 500-1000 mg daily.