

# The Blood Pressure Fix



Discover the truth about blood pressure... and how to protect your heart

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## The Blood Pressure Fix

Being diagnosed with high blood pressure or hypertension as your doctor may call it, can be scary and dangerous, but the good news is that the more you learn about high blood pressure, the more you may be able to control it with proper diet and lifestyle changes as well as medication. Don't be scared— educate and empower yourself.

Hypertension, or high blood pressure is a very common, insidious problem. Here in the United States, 31% have diagnosed hypertension, another 30% are pre-hypertensive, and another 20% are have high blood pressure, but remain unaware of their status. If you do the math, **that is over 80% of the population with blood pressure issues!** Even scarier, most people and doctors do not address the underlying issues that caused it in the first place.

According to the World Health Organization (WHO), the prevalence of high blood pressure was around 40% worldwide, (2008), but if you consider population growth, combined with an aging population, that number is most likely much higher now. Top that off with the fact that many people, especially in less developed countries, most certainly have undiagnosed hypertension.

Blood pressure is the force of our blood against the walls of the arteries that carry the fresh oxygenated blood away from the heart and out into the body. Blood pressure can vary throughout the day, but generally stays within a general range, depending on body position, breathing, stress, fitness, medications, and time of day. Blood pressure is usually lowest at night and rises quickly upon waking.

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Blood pressure is measured with two numbers—the top number is called “systolic”, and the bottom number is “diastolic”. The systolic number, measures the pressure of your blood against the walls of your blood vessels as it is pumped out of your heart. The number on the bottom, the **diastolic** measurement, represents the pressure in your blood vessels when your heart rests between beats. Blood pressure is measured in millimeters of mercury (mmHg).

Generally, a healthy blood pressure is between 90-120 systolic, and 60-80 diastolic. Blood pressures measured above 120/80 are considered high and termed “pre-hypertension”. Blood pressures of 140/90 or above are considered “hypertension” and usually require medical treatment. A ‘hypertensive crisis’ is a dangerous situation when your blood pressure rises dramatically high and means that your blood pressure is 180 or higher (systolic), over 100 or more (diastolic).

## Why Does It Matter If You Have High Blood Pressure?

Having high blood pressure means that your arterial walls have stiffened due to a variety of factors that is discussed later. When blood vessel walls lose their elasticity, you run the risk for deadly heart disease, strokes, and aneurysms (dangerous bulging of arterial walls).

As an example, think of an old garden hose that is stiff and cracked. If you turned the water on full blast, then pinched the hose, you’d create buildup of pressure in the hose. Often that pressure will create a leak. The same thing happens when you have high blood pressure. Arterial walls get stiffer, and surges of blood can actually create bulging and ballooning in the walls of the arteries, even in the aorta or the brain. If and when these bulging areas rupture, you have a hemorrhagic stroke or a ruptured aneurysm. This is often deadly.

## What Causes High Blood Pressure?

While not a lot is known about the direct causes of high blood pressure, there are several key things that come into play. Often there is a genetic factor, but as we have discussed, genetic factors do not CAUSE high blood pressure, they simply make you more likely to get it at some point. What is interesting here, is that some people may be more susceptible to certain things while other factors have virtually no effect on them. Age also makes a difference. As we age, our blood vessels tend to get less elastic, so that lifestyle factors affect us more.

Unhealthy lifestyle factors definitely contribute to high blood pressure, but they often do not show up until middle age or so. These include:

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- Smoking
- Diet high in processed and starchy foods
- Being obese or overweight
- Drinking alcohol
- Sedentary lifestyle
- Sodium intake

## The Signs and Symptoms of High Blood Pressure

The problem with high blood pressure is that it generally has no obvious signs or symptoms, so many people may have high blood pressure and never even know it, unless they visit their doctor. However, measuring your blood pressure is actually quick and painless, so everyone should be getting it checked on a regular basis.

Occasionally some people with high blood pressure may have some unexplained headaches or pressure in their head, but generally hypertension has no symptoms, unless you are in what is called a “hypertensive crisis”, and even then this condition may have subtle or no symptoms. This is when blood pressure has risen over 180/100.

A hypertensive crisis is divided into two categories: urgent and emergency. In an urgent hypertensive crisis, your blood pressure is extremely high, but your doctor doesn't suspect you have any damage to your organs.

In an emergency hypertensive crisis, your blood pressure is extremely high and has caused damage to your organs. An emergency hypertensive crisis can be associated with life-threatening complications.

Signs and symptoms of a severe hypertensive crisis **may** include:

- Severe chest pain
- Severe headache, accompanied by confusion and blurred vision
- Nausea and vomiting
- Severe anxiety
- Shortness of breath
- Seizures
- Unresponsiveness

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This is a medical emergency and may require a visit to Urgent Care or ER. Medical complications of a hypertensive crisis can include stroke, and damage to the blood vessels.

## Underlying Issues Connected with Blood Pressure

Several underlying causative factors have been well-studied regarding their effects on blood pressure. While most of us know that being overweight or obese, smoking, or eating a diet of processed foods high in sodium, fructose, and other chemical additives contributes to hypertension, there are some other less obvious—but highly significant—factors that can lead to hypertension. Even if you don't smoke, eat a bad diet or are overweight.

Let's dive into some of those other factors.

### Inflammation

One of the biggest factors in chronic disease that we have seen emerge is inflammation. Inflammation has been tied to most all serious and chronic diseases, including: cancer, obesity, diabetes, Crohn's disease, heart disease, arthritis, and many more. Inflammation is the body's response to an invader, or an irritant. Inflammation can include redness, pain, irritation, and an activated immune system. Chronic inflammation, however is not a good thing. A diet high in sugar and processed foods can cause chronic inflammation in the blood vessels, which then can be the beginning of heart disease, as our bodies lay down deposits of cholesterol in an attempt to soothe the injured areas in our blood vessels.

[Recent scientific studies](#) have shown that low-grade chronic inflammation seems to happen just prior to the onset of what is commonly called 'essential' hypertension. Around 90% of hypertension cases are classified as 'essential' hypertension—meaning the precise cause is unknown. Hypertension is associated with inflammation; however, whether inflammation is a cause or effect of hypertension is not well understood.

So, the question is—does inflammation promote hypertension?

An area of particular scientific interest revolves around the inflammatory marker C-reactive protein (CRP). CRP is a very common inflammatory marker in blood vessels and serves as an important measurement for heart disease risk. [This study](#), which showed that subjects with a CRP of greater than 3 mg/l were at an increased risk of developing hypertension, compared to those subjects with a CRP of less than 1 mg/l.

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These findings add to the growing body of scientific evidence that shows inflammation plays an important role in the development of heart disease, and now potentially, hypertension. Information from previous studies seem to show that elevated levels of CRP in the blood can degrade the blood vessels walls, causing them to be more rigid, and to not function correctly. This creates higher blood pressure levels, which in turn can lead to more advanced heart disease. [Other recent studies](#) also show that the presence of chronic, low grade inflammation can actually predict the development of high blood pressure.

## Salt/Sodium

For decades, doctors have been preaching about avoiding salt and sodium, because it was generally considered a contributing factor in high blood pressure. How is that? Well, salt and sodium can cause the body to retain water. When that happens, blood volume goes up slightly as well, with the result (in some people) as higher blood pressure. That is why one of the first medical interventions involves a diuretic to help the body get rid of excess fluids.

While some people may be salt-sensitive, that number is far lower than most conventional medical practitioners would like you to think. [This study](#), however, shows that there are a fair number of people who are salt-sensitive to some degree. Of patients with hypertension, 51% of them are sensitive to salt/sodium, and 26% of those with normal blood pressure are sensitive to salt.

The uncertainty about the role sodium plays in high blood pressure stems from the fact that many of the controlled, well-run scientific studies have actually been inconclusive regarding the effects of salt on hypertension. For example, some [studies](#) have even found a *slight increase* in health issues from low-salt diets. There is exists a growing body of research questioning the long-term benefits of a low-salt diet. A recent review of seven previous studies on sodium and heart disease found that a [moderate reduction in salt intake did not reduce a person's risk of dying](#) or having heart disease.

One of the many issues surrounding the salt and hypertension theory is that often highly processed foods loaded with salt, are also full of high fructose corn syrup, chemical preservatives, starchy fillers, and other junk that all contribute to poor health. So it's tough to just single out the sodium in these processed foods as being the culprit behind high blood pressure.

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Fructose or high fructose corn syrup is one of those extremely common sweeteners found in most all conventionally processed foods, sodas, juice drinks, and other packaged foods. Considering that most all soft drinks are sweetened with high fructose corn syrup, it is interesting to note that [this study](#) actually found that drinking one soda less per day helped to lower blood pressure.

One reason for this occurrence is that dietary fructose causes the kidneys to increase their salt absorption, so that once you get rid of the fructose, salt in the diet becomes less of an issue. But it's not just soft drinks, consider that 80-90% of processed conventional foods contain high fructose corn syrup along with salt.

***You will definitely want to stay away from processed package foods.***

[This survey of worldwide dietary sodium intake](#) found that 75-80% of the sodium ingested by people in North America and Europe comes from processed food. This should come as NO surprise! Only 10-15% of total dietary sodium comes from adding it to food cooked at home.

The point is, there is no ONE simple answer regarding salt and its effects on blood pressure, but it seems that dietary intake of junky processed food is likely a big part of the problem. Salt intake alone does not determine blood pressure, it is simply part of a complex equation.

In addition, some people are 'salt-sensitive' and while that is not the majority of us, it is difficult to tell who exactly is more sensitive to salt and its effects on blood pressure. So, the jury is still out on the sodium question.

Many of the issues with salt, or sodium involve issues with the body's electrolyte balance in general. It is not just ONE electrolyte; it is the delicate balance of electrolytes combined that determine the effect they have on blood pressure.

## Unbalanced Electrolytes

Let's talk about electrolytes in the body. Electrolytes are essential minerals in the body that are necessary to stay alive. They conduct electricity when dissolved in water and are absolutely vital for a number of bodily functions. And yes, our bodies use electricity for survival, especially proper cell function, muscle movement and a regular heartbeat. One of these electrolytes is sodium. Electrolytes must exist in a very delicate balance in the body, in order to function properly. If this delicate balance gets out of whack, the result is a variety of potentially serious health issues.

Electrolytes in the body include:

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- Sodium
- Potassium
- Calcium
- Bicarbonate
- Magnesium
- Chloride
- Phosphate

Muscles need calcium, sodium, and potassium to contract and magnesium to relax. When these substances become imbalanced, it can lead to either muscle weakness or excessive contraction such as spasms or cramps. The heart, being a muscle, also depends on a very well-balanced system of electrolytes for a steady and regular heartbeat.

Sodium and potassium balance each other, much like a teeter totter. Too much salt depletes potassium, and too much potassium depletes salt. So, the important choice here is to increase potassium in the diet. And that's pretty easy—all you need to do is add in lots of fresh veggies and fruits, and BOOM! you have more potassium.

So rather than obsess over the sodium content in foods, eating whole, organic, unprocessed foods that include an abundance of veggies and fruit will do the job. Most all veggies and fruit are loaded with potassium which help the body eliminate excess sodium and lower blood pressure. Below are some of the food that contain the highest levels of potassium:

- **Avocado**
- **Squash**
- **Spinach and other dark green leafy vegetables**
- **Sweet potatoes**
- **Dried apricots**
- **Pomegranates**
- **Coconut water**
- **Bananas**

Interestingly enough, a diet too high in sodium usually means a diet that is too high in processed foods. But a diet high in potassium, means you are eating lots of fresh, whole, healthy, REAL foods—which is what you want for many health reasons, including lower blood pressure.



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So as a rule of thumb, if you have elevated blood pressure, just assume you should eat more potassium-containing foods and cut way back on the salt and foods containing sodium. Easy to do—just opt for unsalted butter, only add salt right before you eat instead of during cooking, and cut out chips, nuts, etc. that are salted—and of course, avoid the obvious—**DON'T EAT PROCESSED FOODS**. If it comes in a can, box, bag, and has multiple ingredients, you will generally want to avoid it.

## Alcohol

Medical professionals always tell patients to cut back on drinking to help lower blood pressure. But at what point are you drinking too much alcohol? Based on some of the research, the interaction between alcohol and health is rather misunderstood and controversial. The media and 'health experts' are constantly telling us that alcohol is beneficial to health. We hear that alcohol can prevent heart disease, help **LOWER** blood pressure, reverse aging, fight diabetes, burn fat, improve the libido, fight dementia and more.

So, at what point does alcohol become **BAD** for us?

Multiple studies have actually debated the association between alcohol intake and hypertension. The most recent findings about the association between alcohol drinking and hypertension show that it is 'dose-related'. The greater the amount of alcohol consumed, the greater the rise in blood pressure and hypertension risk.

However, multiple cross-sectional and epidemiological studies show alcohol to be **ONE OF THE MOST IMPORTANT MODIFIABLE RISK FACTORS** for most groups of people. There is a proven positive association between alcohol intake and blood pressure.

Most medical data on the effects of alcohol come from large observational studies and are less convincing, as opposed to real, controlled and randomized, specific scientific interventional studies. [An analysis of 15 controlled scientific studies](#) where alcohol reduction was the only intervention, found that reducing the amount of alcohol consumed **definitely lowered both systolic and diastolic blood pressure in a dose-responsive way**. In other words, the less alcohol consumed, the better the blood pressure results, and vice versa.

[Another study](#) showed that reducing or stopping alcohol consumption immediately reversed its effect on blood pressure. In other words, stopping or severely restricting alcohol intake caused an almost immediate drop in blood pressure, but as soon as the study subjects resumed their normal amount of drinking, blood pressure shot back up to where it was, pre-study.

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One of the most interesting findings, however, is that blood pressure dropped the most within the first **three days** of abstaining or cutting back on alcohol consumption, and remained virtually unchanged, thereafter. So, cutting back on alcohol can immediately reverse its effect on hypertension.

Past drinking history has no influence on blood pressure; even heavy drinkers who no longer drink alcohol can lower their blood pressure.

These studies correlate with many of the other large studies whose results show that people who report daily intake of **only 3 drinks** had a higher than average blood pressure reading. This positive correlation is across the board, including both males and females of all ages, along with multiple racial and ethnic groups.

However, the association between hypertension and light or moderate drinking—which is only 2 drinks a day for men or 1 drink a day for women gets a little more complicated. (In these studies, a ‘drink’ is defined as 1.5 oz/45 ml hard liquor, 5 oz/150 ml wine, or 12 oz/330 ml beer).

Some studies show that light alcohol consumption has been associated with an increase, decrease, or unchanged blood pressure readings—adding to the confusion. [In this study of 66,500 subjects](#), only women—not men—who were light drinkers, reported lower blood pressure readings compared to the ‘teetotaler’ group.

In two other large studies, almost 29,000 women were followed in the Women’s Health Study for 11 years, and 13,000 men in the Physicians’ Health Study for 22 years. These large studies showed light to moderate drinking associated with reduced blood pressure in women, but INCREASED blood pressure and hypertension risk in men. And, African American men seem to be the most sensitive to hypertension as a result of even light to moderate drinking.

The other confusing issue with drinking is this: Popular culture seems to attribute certain virtues with particular types of alcohol, while other type of alcohol are vilified. For example, red wine is often considered much more beneficial for heart health, and blood pressure, than say, whiskey, vodka or tequila. However, many studies have actually proven this belief to be incorrect. Red wine, white wine, beer and hard liquor all seem to increase blood pressure, with no difference as to the type of alcohol. It is the ethanol in the drink that is the harmful component, regardless of the type of drink. While red wine does have some health benefits, they do not extend to blood pressure benefits.

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**The Bottom Line on Alcohol**—Anyone with hypertension or even pre-hypertension who drinks more than 3 drinks a day if male, or 2 drinks a day, if female, should be ***strongly urged to cut back overall alcohol intake***. This is especially true for African American or Asian men who seem to have an even greater negative reaction to drinking. Bottom line:

***If you are not going to totally quit drinking, alcohol consumption should be limited to one drink a day. Period.***

## Coffee and Caffeine

Coffee, along with other caffeinated beverages such as tea and soft drinks, is heavily consumed worldwide. It is reported that about 80% of adults in the United States drink caffeinated beverages, and a similar percentage consume coffee, tea or soda with caffeine around the globe.

**Caffeine** is often talked about as having a negative effect on blood pressure, and while you may have read about some of the very positive effects of caffeine on health, caffeine gets knocked for raising blood pressure. But is this a transient effect or lasting negative health result?

**Way back in 1934**, coffee and caffeine were found to have an effect on blood pressure, so this is not a new topic. There have been numerous studies since then, but the jury is still out on whether caffeine exerts a consistent increase in blood pressure.

Generally, it is found that the caffeine in coffee and other beverages can cause a short but sometimes dramatic rise in blood pressure—but more so among people who do not normally drink coffee or caffeinated beverages.

While some scientists believe that the caffeine blocks a hormone that keeps the blood vessels wide open, other scientists think caffeine's effect on blood pressure has to do with the adrenaline that results from drinking coffee.

It is thought that if you drink caffeinated beverages on a consistent basis, you most likely will have higher than average blood pressure than those who do not drink any caffeine. However, if you do consume caffeine on a regular basis, you also develop a tolerance to the caffeine, which actually makes it have less of a long-term effect on BP. In studies on people who drank coffee on a regular basis, caffeine only seems to cause a temporary increase of 1-2 points, both systolic and diastolic. It is thought that caffeine may have a variable effect on people, where it has a more noticeable effect on some, but not others.

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**Coffee**, especially good organic coffee, grown at high altitudes, is full of antioxidants, and has been shown to be especially beneficial for health, fighting cancer, heart disease and diabetes, as well as anti-aging. However, if you have high blood pressure, ask your doctor if you should limit your coffee drinking.

A cup or two of coffee in the morning doesn't seem like it could kill you, but best to avoid other caffeinated beverages throughout the day—especially the ones with sugar or fructose in them. This compounds the problem.

To see if coffee has an effect on your blood pressure, try monitoring your BP prior to a cup of coffee and then check again 30-60 minutes later. If you see an increase of 5-10 points, you may be sensitive to caffeine.

## Stress

Stress is our primal 'fight or flight' response – our hearts beat faster, our breathing increases, blood sugar is released in our system for easy access, and our peripheral blood vessels constrict. All to make us ready to run for our lives. Unfortunately, our daily lives are full of stress as well, but we never really need to 'run' for our life. Instead, stress becomes not just an isolated event, but an ongoing, overshadowing lifestyle. But, our bodies still react the same way physiologically—whether we are trying to run from a saber-toothed tiger or just have a deadline at work.

Stress can definitely cause hypertension, because as the peripheral (outlying) blood vessels constrict because of stress, they increase the pressure inside the blood vessels. Stress can be an ongoing thing, or just even the temporary stress of seeing someone approach you with a blood pressure cuff and a white coat.

When one stressor is combined with other stressors—work, bills, kids, health issues, etc. the effect becomes multiplied. Stress can cause temporary blood pressure spikes as well as longer term hypertension. However, even temporary BP spikes, if they happen frequently, can damage blood vessels, heart and kidneys. The good news is that once those stressful situations are removed, blood pressure tends to decrease again. Think, vacation...

There is so far no real proof that stress by itself can cause long-term blood pressure increases—thus far it has been shown to only cause temporary and somewhat transient increases.

But other diet and lifestyle behaviors that people use to deal with stress: drinking more alcohol, poor sleep habits, overeating or eating unhealthy foods high in sugar or salt, smoking, etc. may also be part of the cause of the higher blood pressure readings.



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Exercising 3-5 times a week for 30 minutes or more can definitely help to reduce stress and reduce blood pressure. Getting outside, getting fresh air, soaking up the sunshine and hanging around green plants and forests is always helpful for lowering both stress and blood pressure. And while you're at it, take your shoes off. Walking barefoot outside can be very helpful to reduce stress, and reduce blood pressure.

Better stress relievers including healthy eating, hiking, running, cycling, camping, meditating, or yoga, may not only be better for your health overall, but actually relieve your stress better as well.

## Conventional Treatment for Hypertension

Most conventional medical practitioners will recommend medication, even for borderline hypertension. Blood pressure guidelines have changed, with 120, instead of 130, as the systolic (top) number being the starting point for 'elevated blood pressure', according to the American Heart Association.

People with readings of 130 as the top number or 80 as the bottom number now are considered to have diagnosed high blood pressure, according to the guideline released recently by the American Heart Association. High blood pressure used to be defined as 140/90.

This change in guidelines means that 46 % of U.S. adults are identified as having high blood pressure, compared with 32 % under the previous definition. The current guidelines in the U.S. and in most countries recommend that even mild or borderline hypertension should be treated. However, [this review](#) conducted by the prestigious and well-known *Cochrane Collaboration* found that mild hypertension that is treated pharmacologically did not actually reduce the risk of disease or death. Physicians continue to prescribe medication, however for this group of people.

Blood pressure medications can and do lower blood pressure and are especially effective at lowering dangerously high blood pressure in Stage 1 and Stage 2 hypertension. The biggest problem, though, is that these medications do not address the *underlying causes of high blood pressure*, which we have discussed above. So, yes blood pressure medication does lower blood pressure, but it doesn't really 'treat' the issue of hypertension.

Blood pressure medications, depending on their type, can also have unwelcome side effects as well. Below are the most popular types of medications given for hypertension or pre-hypertension and their side effects.

## Diuretics

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-These are some of the oldest, simplest and longest-standing blood pressure medications. They simply help the kidneys flush excess fluids and sodium from our body by increasing urination, thereby lowering blood volume and blood pressure. Often mild hypertension is treated with diuretics alone.

Side effects include: frequent urination, mild dehydration and loss of potassium which can result in fatigue, weakness, leg cramps or even heart dysrhythmias. Diuretics can sometimes cause erectile dysfunction as well. Thiazide diuretics also reduce beneficial HDL, increase triglycerides and total cholesterol, and increase insulin resistance.

- **A.C.E. Inhibitors**-Angiotensin Converting Enzyme Inhibitors block the hormone angiotensin that causes blood vessels to constrict. Side effects can include a dry cough, fatigue, headache, skin rash, loss of taste, and increased potassium levels.
- **Beta Blockers**-Slow down the heartbeat by blocking the excitatory 'fight or flight' hormones adrenaline and noradrenaline in the nervous system. Beta blockers relax blood vessels and help to restrict production of angiotensin. Beta Blockers can have a variety of side effects including: cold hands and feet, fatigue, weakness, sleep disturbance, erectile dysfunction, depression and constipation.
- **Calcium Channel Blockers**-Calcium in the cells creates an electrical current that conduct signals for the muscles, heart and blood vessels to contract. Calcium channel blockers decrease the force of the heart's contraction and increase blood vessel dilation. Side effects of calcium channel blockers include: headache, constipation, rash, nausea, flushing, edema, depression, dizziness, erectile dysfunction, and possible liver enzyme abnormalities.

Many of these medications are used in combination with other blood pressure medications, so the list of side effects may increase or be compounded, if that is the case.

## Do Blood Pressure Drugs Help or Hurt?

Hypertension is dangerous if uncontrolled, increasing your risk for blood vessel damage, kidney damage, heart attack and stroke, so do not ignore it. It needs to be treated. However, using a medical 'bandaid' to fix the problem is nothing near the same as addressing the lifestyle factors, dietary factors and stress factors.

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**Note:** As with all medical conditions, especially one as serious as hypertension, do not discontinue any medications, unless you consult your physician first. Some hypertensive episodes could prove deadly or cause permanent damage to your blood vessels and organs.

As is the case with many pharmaceutical interventions, medications tend to only treat the symptoms, but not the underlying cause of the disease. According to a University of Florida study, using drugs to lower blood pressure can shorten your lifespan instead of extending it.

This study was published in the Journal of the American Medical Association and suggests that 'less' is more. Patients in the study were actually found to fare better as far as risk factors for heart disease if they controlled blood pressure between 130-140, as opposed to taking more medication to control BP down below 130 systolic.

According to one of the scientists in charge of the study,

"In this observational study, we have shown for the first time, to our knowledge, that decreasing systolic BP to lower than 130 mm Hg in patients with diabetes and CAD was not associated with further reduction in morbidity beyond that associated with systolic BP lower than 140 mm Hg, and, in fact, was associated with an increase in risk of all- cause mortality. Moreover, the increased mortality risk persisted over the long term."

And, yet another study showed that two of the types of drugs used to control blood pressure, **alpha blockers and alpha-agonists** can cause erratic blood pressure measurements, which could have serious adverse health effects.

Medical research shows that *consistency* is the key for healthy blood pressure levels. A study published in The BMJ in 2016, for example, associated those with more fluctuating systolic blood pressure measurements had a 15 % increase in all-cause mortality.

Some blood pressure medications may also affect depression and bipolar disorder, according to a new study published in the American Heart Association's journal Hypertension. **The researchers found that people who were taking beta-blockers and calcium antagonists were twice as likely to be admitted to a hospital for mood disorders, compared with patients on angiotensin antagonists or ACE inhibitors.**

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And, as many cardiologists will tell you, inflammation is now considered one of the key factors in heart attacks and stroke, regardless of cholesterol levels, blood pressure, and other cardiac markers, **so lowering your overall inflammation** will not only benefit your blood pressure readings, but cut your risk of heart attacks, strokes, cancer, diabetes, and hundreds of other diseases—including mood disorders like depression and anxiety. Nothing ‘cures’ better than healthy lifestyle changes and eliminating overall inflammation.

## Natural Ways to Lower Blood Pressure

There are many natural ways to lower blood pressure, including lifestyle changes, dietary changes, exercise and stress reduction. On top of those things, the best way to address blood pressure issues is to add in some healthy supplements that help to relax the blood vessels, increase nitric oxide in the blood—which opens and relaxes blood vessels, and supplements that decrease inflammatory factors. While there are literally dozens of supplements that can directly or indirectly help with lowering blood pressure, I will highlight the supplements that offer the biggest bang for your buck and your health.

**Magnesium-**I harp on magnesium a lot, and for good reason. While the conventional medical community is certainly not ready to promote magnesium as the answer to cardiovascular problems (it only costs about \$10 a bottle and is not produced by a pharmaceutical company), most medical practitioners will admit it that magnesium is highly beneficial if you ask them. Numerous scientific studies have shown a direct physiological link between low magnesium levels and hypertension in humans and other animals.

Magnesium is one of the most important minerals we can put in our bodies. It is difficult to get an adequate amount just from diet, so supplementing is key. It is estimated that 80-90% of the population is deficient on this very vital mineral. Magnesium is one of the essential minerals we need to maintain health.

Because the role of magnesium is so diverse, nearly every system in the body is affected by a magnesium deficiency. While there is ongoing research into whether magnesium has a significant effect on blood pressure, it has been widely documented to maintain normal nerve and muscle function, maintain a slow, steady heartbeat, support a healthy immune system, and help bones to remain strong.

Inside each of our cells, there is what is called a sodium/potassium pump. This pump regulates fluid inside and outside of our cells and is important to maintaining proper fluids. When this pump inside our cells does not function correctly, it causes problems in the regulation of our bodily fluids and with blood pressure.



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Magnesium is an essential element in this pump system, so reducing sodium, and increasing potassium and magnesium intake can directly improve the source of the problem and ***should really the first line defense for any person with elevated blood pressure.***

This new research on magnesium includes data from 34 clinical trials, with a total of 2,028 participants. The researchers found that those participants who had a median dose of 368 mg of magnesium daily for an average of 3 months recorded a significant decrease in systolic blood pressure of 2.00 mm Hg and a decrease in diastolic blood pressure of 1.78 mm Hg.

While that is not a drastic drop, benefits may increase over time—especially combined with diet, exercise and other lifestyle modifications. Song and colleagues also observed that patients who had an intake of 300 mg of magnesium per day reduced blood pressure within a month.

According to Dr. Yiqing Song, M.D., Sc.D., from Indiana University, Indianapolis:

*"With its relative safety and low cost, magnesium supplements could be considered as an option for lowering blood pressure in high-risk persons or hypertensive patients."*

One more very interesting feature of magnesium—especially if you would like to continue drinking moderate amounts of alcohol—is that [magnesium supplementation can prevent the development of alcohol-induced hypertension](#). As you recall, alcohol is one of the single most important modifiable lifestyle factors that influence blood pressure, so this is pretty significant.

Multiple forms of magnesium supplements are available, but I would suggest using magnesium glycinate or magnesium malate as they are easier on the digestive system and have easily assimilated in the body. I have also found magnesium aspartate as being helpful as well. Magnesium L-threonate is also a good chelated option if you have cognitive issues such as brain fog, because L-threonate effectively crosses the blood brain barrier and positively impacts brain synapses, as well as helping blood pressure.

**Caution**—Be aware, that magnesium is a laxative. The above forms of magnesium will help you steer away from this issue. Avoid magnesium citrate, it has the MOST laxative effect. However, if you have a tendency towards constipation and irregular bowel movements, this type may help.

The standard dose of magnesium supplementation is 200-400mg per day. It is best to start with small doses and increase gradually to avoid side effects. If you've never taken it before and have a mg deficiency, you may be especially sensitive to the side effects. It helps to split up the dose, so that you take magnesium in the morning, and right before bed. It helps with stress during the day and promotes restful sleep at night because it relaxes the muscles and the body.

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Be sure to consult a health practitioner before taking any health supplements, as magnesium supplements may interact with medications such as blood sugar-lowering drugs, antibiotics, blood pressure medications, hormone replacement therapy, and steroids.

**Potassium**-A healthy diet will supply most all of the potassium necessary for optimal health. In fact, if you are eating a diet high in vegetables and fruit you won't need to take a potassium supplement.

Adding plenty of **potassium and magnesium, while reducing sodium**, will have the greatest effect in naturally lowering blood pressure. **People with high blood pressure who eat a diet high in potassium** will have an average of about a 7-point drop in systolic blood pressure and a 2-point drop in diastolic. That's impressive!

**Potassium will also help to balance out the negative effects of salt or sodium.** With the help of the sodium/potassium pump we discussed above, potassium helps to pull out the excess sodium, which in turn helps to reduce fluid in the body. This sodium and excess fluid is sent to the kidneys, and on to the bladder. Because your body is then effectively filtering out sodium and extra fluids, this in turn lowers blood pressure, similar to what prescribed diuretics do.

Raising potassium levels is relatively easy. Most vegetables and fruits are high in potassium, so just being sure you are getting natural sources of potassium from your diet should raise levels enough to balance out sodium and help lower blood pressure. Foods highest in potassium include:

- **Avocado**
- **Squash**
- **Spinach and other dark green leafy vegetables**
- **Sweet potatoes**
- **Dried apricots**
- **Pomegranates**
- **Coconut water**
- **Bananas**

By eating more fruit and vegetables, you will increase your potassium levels and help to restore the delicate balance between sodium and potassium in your cells and body fluids. This will help your kidneys to work more efficiently—and can help lower your blood pressure to a healthy level.

# The Blood Pressure Fix

**Curcumin-** [Curcumin](#), the active ingredient in turmeric, has been hailed as one of the most powerful anti-inflammatory natural supplements that easily and readily available. Many studies have shown that curcumin is highly protective for the heart and blood vessels, helping to reduce the incidence of heart attacks and reducing blood pressure.

As we discussed earlier, the renin-angiotensin system is the body's hormonal system that regulates blood pressure. Curcumin can help to reduce hypertension by helping to regulate the activity of the angiotensin receptors and helping to relax the blood vessels. In fact, turmeric has been shown to be as effective as some blood pressure medications.

Curcumin exerts a strong antioxidant effect that not only reduces blood pressure but reduces harmful cholesterol levels and prevents age-related changes in blood vessels, such as stiffening, which results in an increase in blood pressure.

Turmeric is considered safe when used appropriately and according to the label. However, those with liver disease should use turmeric with caution, if at all. According to Dr. Andrew Weil, M.D.,

“Adults can take 400 to 600 mg of turmeric extract three times per day or as directed on the product label. The dried spice is not effective for treating specific conditions but is good for general health.”

Note: Women who are pregnant should avoid turmeric due to the possibility of uterine stimulation. There is insufficient information for women who are nursing, so contact your doctor before taking it.

Do not take turmeric if you have gallstones or bile duct dysfunction, as it may cause gallbladder contractions. Turmeric also exhibits antiplatelet effects and may promote bleeding if used immediately before surgery. Discontinue use of turmeric two weeks before surgical procedures.

**Resveratrol**—Resveratrol has been hailed as the anti-aging supplement present in red wine and other dark-skinned fruits such as blueberries, red grapes, cacao, mulberries and lingonberries. Resveratrol is a powerful antioxidant and considered one of the most potent polyphenols to protect against free radical damage.

Resveratrol has been highly studied as a supplement to combat aging, protect the heart and blood vessels, fight cancer, prevent Alzheimer's disease, regulate blood sugar levels, and many other health issues.

# The Blood Pressure Fix

Previous health studies have looked at resveratrol as having properties that [protect blood vessels](#). In this study, [resveratrol is looked at as an agent to help lower blood pressure](#) and to help create better blood vessel function.

Resveratrol is considered useful as an aid when added to a standard conventional medical hypertension therapy. Resveratrol increases the amount of *nitric oxide* in the blood, which is a very strong vasodilator (increases size of blood vessels to lower blood pressure). Nitric oxide is produced in the lining of the blood vessels where it causes vasodilation. Increased dilation of the blood vessels in turn reduces resistance to blood flow, which in turns lowers blood pressure.

Results of [this study](#) show that adding resveratrol to a standard medical blood pressure treatment helps to decrease and control blood pressure better than just the pharmaceutical medication alone. Resveratrol has many other health promoting actions as well, so adding it to a standard hypertension treatment goes a long way towards protecting blood vessels. In addition, resveratrol helps to decrease liver enzyme levels and protects the liver against damage.

Standardized supplements for resveratrol come in 20mg to 100mg capsules. Less is more in this case, and it is recommended by most health practitioners to stick with the lower dosage of 20 mg. But don't try to get the resveratrol you need from red wine, it would take 40 glasses or more of red wine to equal the amount of resveratrol you'd get in one 20mg capsule!

**Omega 3's**—I am sure you've heard a lot about omega 3's and their benefits to heart health. Well, these benefits extend to blood pressure and blood vessel health as well. Omega 3 fatty acids have been found to reduce blood pressure as effectively as other lifestyle changes including exercise, sodium reduction, and alcohol limitation, according to an [analysis of several studies, published in the American Journal of Hypertension](#). Researchers looked at data from over 70 randomized clinical trials, examining the effects of EPA and DHA (the primary components in Omega 3 fatty acids), and adults who either did have or did not have high blood pressure.

Omega-3 fatty acids support brain function, including memory, reduce [inflammation](#), and enhance cardiovascular health. Research suggests that people with less of the inflammatory omega-6 fats as compared to omega-3's have a reduced risk for such conditions as diabetes and heart disease.

Study findings also showed that those people with the highest measurable serum levels of omega 3 fats had the lowest blood pressure readings. For those with the highest levels of omega 3's, systolic pressure was 4 millimeters of mercury (mm Hg) lower and their diastolic pressure was 2 mm Hg lower compared to those with the lowest omega-3 blood levels. The fish oil may work by improving blood vessel function and reducing inflammation, among other things. As reported by WebMD:



# The Blood Pressure Fix

"This suggests that promoting diets rich in omega-3 foods could be a strategy to prevent high blood pressure,' [Dr. Mark] Filipovic said ... Even a small reduction in pressure, as little as about 5 mm Hg, could prevent a great number of strokes and heart events in the general population ...

And it only takes about 1000-2000mg a day of omega 3's to those who already have high blood pressure to reduce their numbers.

Omega 3 fats can come be sourced from plants or animals, like fish or krill. However, it is very important to realize that omega 3 fats that are sourced solely from plants are not as accessible in the body, and do not work for this purpose. Long chain omega 3 fatty acids from fish or krill are put directly to work in the body, crossing the blood-brain barrier, and go to work in your cells, which is where they need to be. Even vegans must be aware of this fact and if they want to get the health benefits from omega 3 fatty acids, the omega 3 must come from animal sources.

**Vitamin B**—B vitamins are vital to our physical and mental health and they actually help us feel less stressed and anxious. Experts often call B-complex vitamins “stress relievers” and doctors prescribe for patients who are depressed or anxious. Relaxation is vital to normal levels of blood pressure, so it is thought that the B-complex vitamins may help fight against high blood pressure. [Studies have shown B vitamins](#) to play a positive role when it comes to lowering blood pressure and preventing strokes.

When we speak of B vitamins, we are actually speaking of 8 different vitamins, all interrelated. These vitamins play a variety of roles in our health from protecting and nourishing our brains and nerves, to cardiovascular health. B vitamins also help to protect the heart by lowering the inflammatory substance, homocysteine.

B vitamins consist of thiamin or B1, riboflavin or B2, niacin or B3, pantothenic acid or B5, pyridoxine B6, biotin B7, folic acid B9 and cobalamin B12.

Niacin or B3, is the primary B vitamin known to help lower blood pressure. Niacin is a powerful vasodilator (opens up blood vessels), allowing blood to flow without resistance, thus lowering blood pressure. Niacin is so powerful as a vasodilator it causes a flushing effect, making the skin feel tingly, red and warm.

# The Blood Pressure Fix

Since the B vitamins need to be taken in a balanced dose (too much of one type of B vitamin causes an imbalance in the other B vitamins), it is best to take a multi-B vitamin, instead of just one type. B vitamins are also water-soluble, so the body does not easily retain them. Any extra is lost through urine excretion. For best health protection and treatment of blood pressure, take a high-quality B vitamin complex supplement that contains methylated folate and methylcobalamin, which is more bioavailable than other forms of folate and B12.

**Vitamin D**— Blood pressure reduction is one of the many health benefits that vitamin D offers. Did you know that if you are deficient in vitamin D, you are more likely to have higher blood pressure? The best way to get vitamin D is to get outside during midday, even if only for 15 minutes. However in more northern latitudes, especially in the winter, getting enough vitamin D from the sun is virtually impossible. People who work indoors and do not get out in the sunshine frequently are generally **deficient in vitamin D and are more likely to have high blood pressure**.

Vitamin D supplementation can reduce blood pressure in people with hypertension. It is thought that Vitamin D works by suppressing the blood pressure hormone renin, which is similar to the way that prescription angiotensin-converting enzyme (ACE) inhibitors work.

Optimal levels of vitamin D should be at 60-70ng/mL in the blood. Most standard dosages of vitamin D recommend 400 IU per day; however, in order to get optimal levels of vitamin D, it may be necessary to take up 4,000 to 6,000 units per day. It is highly recommended that patients have their vitamin D levels checked by a physician or lab on a regular basis for the proper levels. Too little or too much vitamin D can be detrimental.

## Necessary Dietary Changes to Lower Blood Pressure

Primitive and traditional cultures that rely on the same diets as they did hundreds of years ago, had little if any problems with blood pressure. This has increased dramatically in modern societies in part because of processed foods and sedentary lifestyle. Hypertension was virtually unheard of in hunter-gatherer cultures.

Going back to a Paleo/primal-style diet that reduces or eliminates wheat, corn and other refined grains, along with sugars, and processed foods **can substantially reduce blood pressure**. In addition, risk factors such as weight, waist circumference, C-reactive protein, glycated hemoglobin (HbA1c), blood pressure, glucose tolerance, insulin secretion, insulin sensitivity and lipid profiles also improve.

# The Blood Pressure Fix

Eliminating the problem-causing foods, along with the addition of select, healthy, whole foods will make great progress towards naturally reversing this potentially dangerous health condition, as well as reducing disease-causing inflammation.

An important key to success is eliminating wheat and corn products from the diet. While this may seem a bit unorthodox, it is probably one of ***the most important dietary strategies*** one can make towards lowering blood pressure. Eliminating or drastically reducing all wheat and corn products including whole grain breads, pastas, breakfast cereals and bars, bagels, muffins, crackers, pancakes, cookies, tortillas, chips, and foods containing corn starch, or high fructose corn syrup is one of the most powerful components of blood pressure lifestyle modifications.

This practice alone, according to some medical clinics, pressure reductions of 20-40mmHg are not unusual, combined with successful weight loss, healthier cholesterol lipid panels, reduced inflammation, and the potential to reduce or eliminate blood pressure medications. (Please check with your physician before you reduce or stop any blood pressure medications.)

Researchers from the University of California San Francisco School of Medicine conducted a study on the possible [benefits of a Paleo diet](#). In this well-designed study, Dr. Frassetto, a Health Sciences Clinical Professor at UCSF School of Medicine, found that only 10 days on a Paleo diet showed positive changes in blood pressure, cholesterol and blood sugar levels.

The Paleo diet that the study subjects followed included meat, fish, poultry, eggs, fruits, vegetables, nuts, mayonnaise, and honey, but no other sugar, dairy products, legumes, cereals, grains, or potatoes.

The Paleo diet benefits for blood pressure did not surprise researchers since the diet was naturally low in sodium and high in potassium. The combined effect of lowering sodium while increasing potassium is a proven way to lower blood pressure.

Some of the best foods to help lower blood pressure include raw, unsalted nuts such as almonds, pecans, walnuts, Brazil nuts, pistachios and hazelnuts. Pumpkin and sunflower seeds are also powerful additions to the diet. Be sure to include lots of brightly colored organic vegetables such as dark green leafy veggies, brightly colored peppers, tomatoes, squash, red onions, watermelon, berries and more. Use healthy unprocessed oils such as grass-fed butter, coconut oil, extra virgin olive oil, and avocado oil.

## Top 5 Foods as Effective as Medicine

# The Blood Pressure Fix

**Beets**—Beets, especially red beets, have been found to contain a large amount of a substance that the body needs to help expand the blood vessels, called nitric oxide. Nitric oxide causes blood vessels to relax and open up, lowering blood pressure and helping the body carry more oxygen to parts of the body where it is needed—like muscles, your heart and your brain.

This [research review](#) , and this [study published in Hypertension](#), showed a diet including nitrates from beets or beet juice can significantly lower blood pressure, while increasing oxygen delivery to the whole body and enhancing the health of the blood vessels.

You may have heard of people taking a drug called “nitroglycerin” for chest pain and heart attacks. The medication contains a synthetic version of this same compound found in beets, which helps to relax the blood vessels to promote better circulation. Beets are not the only vegetable to contain high quantities of this amazing substance. [This study published in \*The American Journal of Clinical Nutrition\*](#) shows kohlrabi, celery and celery root, watercress, leeks, parsley, arugula, spinach, and turnips contain large amounts of nitric oxide as well.

What’s more, beet juice has been found to increase both exercise performance and duration, according to this [small study published in 2010 in the Journal of Applied Physiology](#). It is thought that this is due to nitric oxide’s vasodilating effect that allows the body to pump more oxygen rich blood to all parts of the body. [Yet another study found that beet juice](#) was beneficial to older people who had vascular disease as well.

You can get the benefits of this amazing vegetable from eating whole beets or by drinking beet juice, but be cautious drinking large amounts of fresh beet juice. A few people have had negative reactions to pure beet juice so drink small amounts or beet juice mixed with other veggie juices. Beets and beet greens are also high in a substance called oxalic acid and should be avoided by those who tend to get kidney stones, gout, or rheumatoid arthritis.

**Watermelon**—Watermelon can be a highly effective blood pressure reducer. Watermelons contain lycopene, which is a powerful anti-inflammatory and antioxidant, known for protecting the cardiovascular system, bone health, and preventing cancer. Lycopene protects our cardiovascular system, the male reproductive system, and in the skin, it protects and prevents UV damage from the sun.

Several studies have been conducted showing the strong link between levels of lycopene, blood pressure, and heart disease. [This analysis from the \*Physicians Health Study\*](#) showed a 39% decrease in stroke risk in men with the highest blood levels of lycopene. Another study in Finland following 1,000 men for 12 years has had similar results as well.



# The Blood Pressure Fix

Watermelon also contains another powerful phytochemical, citrulline, which is an amino acid. Citrulline from watermelon, especially the white part of watermelon, is converted into arginine, or L-arginine. Arginine helps our bodies create nitric oxide, which has powerful benefits on the heart and blood vessels. Nitric oxide causes blood vessels to relax and open up, lowering blood pressure.

A new study by Florida State University Associate Professor Arturo Figueroa, published in the [American Journal of Hypertension](#), found that watermelon could significantly reduce blood pressure in overweight individuals both at rest and while under stress.

**Garlic**—Garlic is simply an amazing food for so many reasons. In fact, it's pretty awesome how many nutrients and health benefits can be packed into this one small clove. It contains sulfur compounds, amino acids, massively powerful antioxidants, and tons of vitamins and minerals. And, it contains some super-powered natural chemical compounds as well, including *allicin*, the kingpin of these natural chemical compounds. Allicin is one of the primary ingredients in garlic that helps to reduce blood pressure and prevent heart disease.

While garlic tastes great in your recipes, it really performs as a medicine – it's health benefits are that awesome! In fact, if a pharmaceutical company created a synthetic substance like garlic, it would be one of the most in-demand, most often prescribed, most expensive drugs on the market.

Garlic boosts immunity, is a natural antibacterial, and antifungal. It lowers cholesterol naturally and thins the blood to prevent deadly blood clots. It fights cancer, heart disease, and is an excellent natural way to lower blood pressure as well.

Garlic contains unique substances that work like the popular angiotensin-converting enzyme (ACE) inhibitors. The gamma-glutamylcysteine in garlic is a natural ACE inhibitor without the negative side effects of the pharmaceutical ACE inhibitors. This natural phytochemical pairs up with allicin to give garlic the ability to dilate blood vessels and effectively lower blood pressure.

Atenolol, another frequently prescribed beta blocker, works by blocking epinephrine in the body. This slows the heart rate, blood pressure and strain on the heart. Beta blockers often have some unpleasant side effects. In the *Journal of Pharmaceutical Science*, [study results showed garlic to work better](#) than atenolol—without the side effects of dizziness, constipation, lack of energy and erectile dysfunction.

Garlic's ability to lower blood pressure may be related to its antioxidant and sulfur content and its ability to stop inflammation. However, some studies suggest that garlic reduces blood pressure by opening up the blood vessels and reducing peripheral vascular resistance.

# The Blood Pressure Fix

Fresh garlic contains a huge variety of health benefits, and a fresh medium sized clove contains about 1% allicin. Dicing up a fresh garlic clove or two every day and adding to your dishes is a great way to get the right amount of garlic. Garlic supplements are also available in a wide range of dosages. Some garlic supplements contain little or no allicin. Some evidence indicates that raw, cold-aged garlic offers the best quality medicinal value, but studies have also shown that cooked garlic is effective. The highest quality garlic is grown organically.

Note: If you are taking a blood thinner or ACE inhibitor for blood pressure, be sure to consult your physician before beginning garlic supplements

**Pomegranate Juice**—Pomegranate juice is an antioxidant powerhouse with [proven antioxidant, anti-inflammatory and anti-cancer fighting abilities](#). Pomegranate is another healthy food that has true medicinal qualities, without the negative effects that some medications can have.

Pomegranates can help prevent or treat various health issues including high blood pressure, high cholesterol, oxidative stress, high blood sugar, and other health problems related to inflammation. Pomegranates contains very powerful polyphenols that have very strong antioxidant, anti-inflammatory abilities. The antioxidant potential of pomegranate juice is actually higher than red wine and green tea. Pomegranate juice can reduce oxidative stress, free radicals, and lipid peroxidation.

One of the most important benefits of pomegranate juice includes its ability to lower blood pressure naturally. [Scientific studies](#) actually show pomegranate juice's significant blood pressure-lowering ability. [Both short- and long-term studies](#) show pomegranate's power to lower blood pressure.

Pomegranate juice acts as a natural and gentle ACE inhibitor to lower blood pressure, which relaxes blood vessels, reducing resistance and allowing better blood flow. And it doesn't take a lot of pomegranate to have the beneficial effects! [In this study](#), 10 patients with high blood pressure were given 50 mL of pomegranate juice daily, which is a little less than 2 ounces. Seven out of ten experienced a 36% average decrease in ACE activity and a statistically significant 5 % decrease in systolic blood pressure.

It's important to drink pomegranate juice as 100% pure pomegranate, not as a mixture of juices that can increase blood sugar. Don't be fooled, just read the label and be sure it is 100% pure pomegranate juice. Trader Joe's 100% Pomegranate Juice, RW Knudsen's Just Pomegranate, and POM Wonderful 100% Pomegranate Juice are all good choices.

# The Blood Pressure Fix

A great idea is to combine beet juice, pomegranate juice and carrot juice for a high antioxidant, blood pressure lowering drink. A triple-whammy for your health!

**Green Tea**—Already well known as a healthy beverage to drink, add green tea to the list of natural foods that have a medicinal-like effect on high blood pressure.

Green tea contains many powerful polyphenol antioxidants that are known for their health-protective benefits. One of green tea's most powerful flavonoids, EGCG is responsible for its ability to counteract a variety of diseases and health conditions. [Study results](#) also show EGCG can be helpful for the prevention of arteriosclerosis, blood clots, heart attack, and strokes—partly due to its ability to relax blood vessels and improve blood flow.

A review of 25 different studies showed that long-term tea drinking can significantly improve blood pressure. This study was reported in the British Journal of Nutrition and as reported by *Time Magazine*,

“After 12 weeks of drinking tea, blood pressure was lower by 2.6 mmHg systolic and 2.2 mmHg diastolic. Green tea had the most significant results, while black tea performed the next best...Reducing systolic blood pressure by 2.6 mmHg ‘would be expected to reduce stroke risk by 8 %, coronary artery disease mortality by 5 % and all-cause mortality by 4 % at a population level...”

Best results occur when drinking about 3-4 cups of high quality green tea a day. While organic green tea is beneficial for health, matcha tea can contain up to 100 times the EGCG that regular green tea contains. Adding a bit of citric acid like lemon juice can boost the amounts of antioxidants your body can absorb. In fact, citrus can increase antioxidant levels by more than five times.

Besides being an excellent source of antioxidants, green tea is also packed with vitamins A, D, E, C, B, B5, H, and K, manganese, and other beneficial minerals such as zinc, chromium, and selenium.

## Important Lifestyle Modifications to Lower Blood Pressure

### Exercise

# The Blood Pressure Fix

There are a few other lifestyle modifications that have a dramatic effect on blood pressure. One of those is regular exercise. Exercise has been shown to be [highly effective on lowering blood pressure](#), even in patients who have what is termed “resistant hypertension”, which means the patient has high blood pressure and is on 3 or more medications to lower it.

You don't have to run a marathon to lower your blood pressure, even moderate exercise 3-4 times per week can have beneficial effects on blood pressure. Brisk walking for a half hour or more 3-5 times a week will go a long way towards lowering blood pressure. Regular exercise benefits the cardiovascular system and decreases blood pressure and stress. Exercise and getting outdoors also have the effect of lowering stress and helping increase serotonin and endorphins, both brain chemicals that increase calm and happy feelings.

## Have More Sex!

Research suggests a link between sex and lower blood pressure. This effect can be because of the calming brain chemicals released after sex for both parties involved, including serotonin, oxytocin, vasopressin, nitric oxide and prolactin.

Oxytocin and vasopressin are also associated with sleep. Their release frequently accompanies that of melatonin, the primary hormone that regulates our body clocks and tells us it's time to sleep. Oxytocin, the 'cuddle' hormone which is released by both men and women is a very calming agent that induces a feeling of 'pair bonding'. It is also thought to reduce stress levels, which again could lead to relaxation and sleepiness.

Testosterone, a sex hormone power player for both men and women, could also be key in lowering blood pressure and reducing stress. Studies have shown a link between low testosterone and high blood pressure, while the spikes in testosterone associated with sexual activity might help lower blood pressure.

Social connections (whether friendships or long term romantic relationships) also have been found to be extremely important to reduce stress, improve overall wellness, lower blood pressure and reduce mortality in general.

## Meditation

Meditation is a calming way to increase serotonin, slow the heart rate, induce positive thoughts and lower blood pressure, but meditation alone will not help those with hypertension or prehypertension. However, meditation in conjunction with other positive lifestyle changes can help.

# The Blood Pressure Fix

## Biofeedback

Biofeedback has been shown to help lower blood pressure as well as slowing the heart rate, but unless you address the underlying causes discussed above, biofeedback will not lower blood pressure long term, only temporarily.

## Conclusion

High blood pressure and diagnosed hypertension remain a risk factor for heart disease and strokes and can have very serious consequences if left unchecked.

Following necessary lifestyle changes, dietary changes and adding in specific foods and supplements can help to lower blood pressure to healthy levels, possibly without medical intervention.

Any significant dietary or lifestyle changes should be discussed with your physician, and careful monitoring of blood pressure should be followed. Some blood pressure medications may need to be modified or reduced.

Following these important guidelines can significantly help lower blood pressure regardless of how high it is. In addition, these lifestyle changes will also help to lessen risk of cardiovascular events, strokes, cancer and obesity.

## Stop These Things Immediately to Lower Blood Pressure

- Stop smoking
- Cut out processed grains and starchy foods like bread, cereal, chips, pasta, pizza
- Eliminate high fructose corn syrup in all foods and drinks
- Cut way back on added salt or foods containing sodium
- Decrease alcohol to ONE glass of wine, ONE mixed drink or ONE beer per day
- Avoid excessive caffeine
- Reduce stress

## Do These Things on a Regular Basis to Lower Blood Pressure

# The Blood Pressure Fix

- Include more potassium in diet, by eating lots of vegetables and fruit
- Eat a Paleo diet high in vegetables, natural oils, and naturally raised proteins
- Be sure to include beets or beet juice, watermelon, garlic, pomegranate juice, and green tea in your diet on a regular basis
- Take magnesium, turmeric or curcumin, resveratrol, omega 3, vitamin B complex, and vitamin D supplements daily
- Get regular exercise 3x a week or more for 30-60 minutes at a moderate level
- Have more sex
- Stay in touch with your physician

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