

Blood flow is important to the health of every cell in your body. Blood delivers the oxygen and nutrients cells need and removes the carbon dioxide and metabolic wastes they produce.

Part of that healthy blood flow is maintaining the proper amount of pressure in the arteries. If the pressure is too high it increases the risk of heart disease and stroke, and can cause damage to the brain, kidneys, eyes, and other organs. If it is too low, blood can't get to the tissues where it's needed.

Unfortunately, a large percentage of people have issues with blood pressure. It's estimated that high blood pressure (hypertension) is a problem for about one third of the adults in the US, about 100 million people. Another 59 million Americans have pre-hypertension, which means their blood pressure is not dangerously high, but higher than is optimal.

While low blood pressure (hypotension) is less common it still causes problems with dizziness, mental confusion, fatigue, headaches, blurred vision, and even heart palpitations. Orthostatic hypotension is a temporary form of low blood pressure that occurs when the body is slow to compensate after moving from a sitting or lying position to a standing position.

In this month's *Sunshine Sharing*, we'll explore the causes of hypertension and hypotension and the natural solutions you can use to balance blood pressure without drugs. These solutions can also help to permanently correct blood pressure problems rather than just managing the symptoms.

# The High's (and Low's) of Blood Pressure

Let's start by looking at healthy blood pressure ranges for adults and how it is measured. Blood pressure is measured by two numbers, systolic and diastolic, as in 120/80. Systolic pressure is the first number, which represents the pressure exerted when

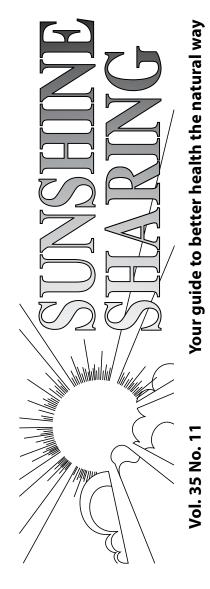


the heart pumps blood through the blood vessels. Diastolic pressure is the second number, which correpsonds to the pressure in the blood vessels when the heart is not beating. It is also called the resting blood pressure.

Adult blood pressure is considered normal when it falls between 90-130 systolic and 60-90 diastolic or 90/60 to 130/90. While blood pressure above 130/90 is classified as hypertension, research has shown that 115/70 to 125/80 is optimal for health and longevity.

Low blood pressure is defined as a resting blood pressure below 90/60. If the blood pressure drops lower than this for three minutes after moving from a sitting position to a standing position, the person has orthostatic hypotension.

Heart rate is another important factor in understanding the flow of blood in the body. Heart rate is the number of times the heart beats per minute. The normal resting heart rate for teenagers and adults is 60 to 100 beats per minute. However, athletes in top condition will have a lower resting heart rate, around 40 to 60 beats per minute. Heart rate will increase with stress, exercise, and other factors that demand higher blood flow.



#### **Important Notice**

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#### Continued from page one

# Regulating Blood Pressure and Heart Rate

Your body has various signaling systems that dynamically raise or lower blood pressure and heart rate according to the demand for blood supply throughout your body. For example, heart rate



increases with exercise to bring a higher volume of blood to the muscles. Artery walls can also relax to accommodate increased flow.

When we're stressed the sympathetic nervous system is activated and both heart rate and blood pressure will increase. So, stimulants like caffeine, over-the-counter cold medications, and antidepressants can also increase both heart rate and blood pressure.

In contrast, blood pressure and heart-rate will drop when the parasympathetic nervous system is more active such as when we're relaxing or sleeping. A loss of blood volume from dehydration or bleeding can also cause blood pressure to drop.

To regulate blood flow, arteries have muscular walls that can expand and contract, increasing or decreasing the diameter of the blood vessels. The diastolic pressure (the second or lower number) is the pressure needed to maintain full blood vessels. The blood vessel must be able to expand or contract to match the volume of liquid it is carrying. If the diastolic pressure increases the heart must work harder, increasing the systolic pressure, to move the blood where it needs to go.

Drugs that regulate heart rate and blood pressure work by manipulating the signaling systems that control them. However, if the underlying causes of problems with blood circulation are not addressed, the body will create compensating mechanisms to work around the drugs so it can deliver the blood where it is needed.

Unfortunately, many of the underlying causes of circulatory problems are never addressed, and people are simply expected to remain on medications to regulate the pressure or heart rate forever. So, if you have issues with circulation, it's important to work with a good herbalist or natural healer who can help you identify the underlying causes of the problem and correct them. To get you started, let's discuss some of the common nutritional problems that can cause problems with blood pressure and heart rate.

### **Nutritional Support for Circulation**



Arteries are lined with a layer of cells called the endothelium. The endothelium lining produces a chemical messenger called nitric oxide (NO) that relaxes the muscles in the artery walls when more blood flow is needed. The endothelial lining

can be damaged by inflammation, resulting in improper signaling, a condition known as endothelial dysfunction (ED). For most people repairing this damaged lining is the best approach to bringing their blood pressure into balance. Here are some of the causes of the damage and suggestions for healing the endothelial lining.

#### **Blood Sugar and Endothelial Dysfunction**

High blood sugar is a major cause of endothelial dysfunction. If your fasting blood sugar is higher than 100 or your A1C reading is above 5.7%, you should get your blood sugar under control. Start by cutting refined carbohydrates out of your diet (e.g. refined sugars, white flour, and white rice) and eat more complex carbohydrates (e.g. fresh fruits and vegetables). Also, take a *Blood Sugar Control Formula* containing herbs like cinnamon, nopal, gymnema, bitter melon, and fenugreek. It may also be helpful to take berberine, an alkaloid found in herbs like goldenseal and barberry root bark.

#### **Antioxidant Nutrients and Vitamins**

It's also important to protect the arterial lining with adequate amounts of antioxidant nutrients. Fresh fruits and vegetables will help provide this protection, but supplements can also be used.

The fat-soluble vitamins (A, D3, E, and K2) are all essential for the function of the endothelial lining and protecting cardiovascular health. Vitamin C is also important. These vitamins not only protect the endothelial lining from oxidative stress and inflammation, they also inhibit the oxidation of cholesterol and the formation of arterial plaque. And, while they won't immediately lower blood pressure, they will help to reduce blood pressure and improve circulatory health over time.

If you have gum disease, consider supplementing with Co-Q10. There is a strong correlation between gingivitis, arterial inflammation and plaque formation and Co-Q10 helps reverse these problems. Co-Q10 will reduce arterial inflammation, help to lower blood pressure, and strengthen heart energy production, as well as helping to prevent and possibly reverse atherosclerosis.

#### Magnesium

Magnesium deficiency might be an underlying cause of hypertension and it has been estimated that 70% of the population doesn't get enough. Symptoms of magnesium deficiency include hypertension, muscle cramps, tension headaches, anxiety, nervousness, insomnia, sensitivity to minor irritations, and fatigue. If signs of magnesium deficiency are present, start by taking 200 mg of magnesium a day. Increase this dose by 200 mg every 3-4 days until you notice improvement with less stress, greater relaxation and lowering of blood pressure. For most people 400-800 mg a day will be sufficient. If your stools become loose, you're taking too much. In addition to bringing down your blood pressure, magnesium can also reduce heart palpitations.

#### **Enhancing Nitric Oxide**

The production of nitric oxide (NO) can be improved by supplementing with dietary nitrates and/or the amino acid larginine. Increasing NO production in the body will lower blood pressure, reduce cardiovascular inflammation, ease angina, and improve athletic performance.

Supplementing with 5 or more grams of l-arginine is one way to enhance NO production. Combining l-arginine with l-citrulline helps the body recycle it and make it more effective.

Another way the body makes NO is from dietary nitrates. Nitrates are naturally found in many common vegetables, including lettuce, arugula, spinach, parsley, cabbage and turnips. Beets, however, are one of the best sources.

Try using a *Nitric Oxide Boosting Formula* that contains l-arginine and/or beet root along with vitamin C, vitamin D3, niacin, magnesium, and other nutrients that enhance circulation. Taken regularly for several weeks it can help to lower blood pressure, improve blood flow, and improve energy and stamina.

# **Herbs for Balancing Blood Pressure**



There are many herbs that can help to improve blood pressure. Some help to lower it, while others can be used to help stabilize low blood pressure. There are also herbs that help normalize blood pressure

that can be used for both high and low blood pressure, as well as orthostatic hypotension. Many of these herbs can also aid heart rate and improve overall blood flow.

#### Capsicum

Capsicum is a circulatory stimulant. It is fast acting and helps improve blood flow to all parts of the body. It helps to balance blood pressure, reducing hypertension and improving hypotension. It is particularly helpful when blood flow is uneven and some parts of the body are getting a better blood supply than others. This can be detected by feeling the pulse on both wrists at the same time. If the pulses aren't synchronized capsicum will help. Capsicum works even better when taken with garlic.

#### Eleuthero

The first herb to earn the label of adaptogen, eleuthero is known for its ability to help the body cope with stress. When stress is a major factor in hypertension, eleuthero can be a useful herb to try. Because it has a normalizing effect on blood pressure it may also help people who suffer from hypotension.

#### Garlic

Available at any grocery store, garlic has many benefits for circulation. It helps to balance both high and low blood pressure. It acts as a natural blood thinner to reduce the formation of blood



clots reducing the risk of heart attacks and strokes. It also helps to lower cholesterol levels, especially the LDL cholesterol and triglyceride levels. It helps to prevent hardening of the arteries and may even help to reverse arterial plaque.

Garlic needs to be taken regularly for several months for best results. Take one clove of raw garlic three times a day (any way you can get it down) or two capsules three times a day. It typically reduces blood pressure about 10-20 points and works best when combined with other herbs.

#### Ginkgo

Best known for its ability to enhance memory and brain function, the standardized extract of ginkgo leaf also acts as an antioxidant and improves peripheral circulation, which has a modest blood pressure reducing effect. It needs to be taken regularly for a long period of time for best results and works better when combined with other circulatory-enhancing herbs like hawthorn.

#### Ginseng

Both American and Korean ginseng act as adaptogens to normalize the body's reaction to stress. A small amount of either herb may be helpful for people who suffer from hypertension or hypotension associated with stress and/or adrenal fatigue.

#### Goldenrod

Goldenrod is a diuretic that improves kidney filtration and poor kidney function is one of the causes of hypertension. If a person is retaining fluid and suffering from hypertension, goldenrod is a good herb to take as part of the protocol.

#### Hawthorn

Research has shown that hawthorn berries act as a tonic for the heart, strengthening the heart cells and enhancing oxygen uptake in the heart. They also help to dilate blood vessels in the extremities to reduce blood pressure. Like ginkgo, haw-



thorn needs to be taken regularly for several months for best results.

#### Licorice root

Licorice root is helpful for raising low blood pressure, especially when it is associated with chronic stress or adrenal fatigue. It is generally contraindicated with high blood pressure, but contrary to popular belief, a small amount of licorice root in a formula will not have significant impact on blood pressure. Also, taking potassium with licorice root will help keep blood pressure normal.

#### Linden

Linden is a soothing nervine that relaxes muscle tension and lowers blood pressure. It helps dilate arteries and is good for hypertension or heart palpitations associated with stress.

#### Lobelia

Lobeline, an alkaloid found in lobelia, acts as a natural beta blocker to relax blood vessels and lower blood pressure. At the same time, lobelia also causes the heart to beat slower, but with greater force, thus increasing blood flow to the extremities.

When blood pressure is too high, you can help bring it under control by taking 5-10 drops of a lobelia extract or tincture every five to ten minutes until the blood pressure comes into a more acceptable range. It can also be used as a small part of a formula.

#### Mistletoe

A powerful nervine that can help reduce blood pressure is mistletoe. This mildly toxic botanical is best used by professionally trained herbalists but it is one of nature's more potent remedies for reducing high blood pressure. Non-professionals can safely use it in a formula with other herbs to reduce both anxiety and blood pressure.

#### Continued on page 4

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#### Continued from page 3

#### Motherwort

Motherwort is a great nervine for regulating both blood pressure and heart rate. It relieves anxiety, lowers blood pressure, and helps with tachycardia, arrhythmia, and heart palpitations. It is particularly helpful for women who are anxious or for relieving circulatory problems caused by a hyperthyroid.

#### Nettle leaf

Nettle leaf is a tonic for people who have low blood pressure. If someone tends towards low blood pressure, feels sluggish and tired, and looks a little pale nettle leaf can help improve blood flow and act as a tonic to perk up their energy. It also helps build up anemic blood.

#### Olive leaf & Oleuopein

Olive leaf extract contains oleuopein and other compounds that help to lower blood pressure. It also contains flavonoids that inhibit the platelet aggregation that contributes to thrombosis. High quality olive oil also contains oleuopein and is a very heart-healthy oil.

#### **Prickly Ash**

A milder circulatory stimulant than capsicum, prickly ash is specifically indicated for people with cold extremities due to poor blood flow. It helps dilate peripheral blood vessels and increase microcirculation in the peripheral capillaries. Used as part of a formula, it can help reduce blood pressure.

#### Rosemary

Stimulating peripheral circulation, rosemary is a good tonic for problems with low blood pressure. It improves blood flow to the head aiding memory and concentration and can be helpful for dizziness, fainting, and headaches caused by poor blood flow. It also has potent antioxidant effects so it can help prevent blood vessels from damage.

# **Formulas for Balancing Blood Pressure**

Most of the herbs we just covered are best used in combination. So the best approach for most people to balance their blood pressure is to use a formula that brings multiple herbs together holistically.



Two good formulas for blood pressure are a *Blood Pressure Reducing Formula* containing hawthorn berry, linden, olive leaf, goldenrod, lobelia, and/or motherwort. And the previously mentioned *Nitric Oxide Boosting Formula* containing l-arginine and/or beet root along with vitamins and minerals.

Another good formula is a traditional *Circulatory Formula* containing capsicum, garlic, ginger, hawthorn, and/or prickly ash. This can be taken regularly as a tonic to improve both blood flow and blood pressure. Formulas containing these ingredients may also reduce cholesterol and reduce the risk of heart attack and stroke.

A good blend for seniors to take on a regular basis is a *Brain-Heart Formula* that combines hawthorn, ginkgo, and olive leaf. Taken regularly this blend will support healthy blood pressure, improve heart function, and aid memory and focus in the brain.

Of course, herbs and supplements are not the only solutions to high or low blood pressure. It's important to also consider lifestyle factors like exercise, sleep, proper hydration, stress management, and other basic health practices. What's important to understand is that there are real, lasting solutions if you look for them.

# **Additional Help and Information**

For more information about correcting problems with blood pressure (hypertension or hypotension) or heart rate contact the person who gave you this newsletter. You can also consult the following resources:

Strategies for Health by Steven Horne The High Blood Pressure Hoax by Sherry A. Rogers, MD The Nitric Oxide (NO) Solution by Nathan S. Bryan, PhD and Jenet Zand, OMD