

**Hypertension: a Symptom, Not a Disease**  
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**Course**  
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Hypertension refers to elevated systolic and/or diastolic blood pressure.

Two types of hypertension:

1. Primary hypertension accounting for 85 to 90% of diagnosed hypertension and
2. Secondary hypertension is usually found in younger populations associated with congenital abnormalities of the kidneys, endocrine, and to other irreversible causes.

Because there is usually a number of causes that can give rise to primary hypertension is unknown in the west though there are a number of factors that lead to this condition. As we shall see, with no mechanical method of detecting hypertension there is no traditional treatment before the 20<sup>th</sup> century for a condition called hypertension or for that matter, other conditions such as hyperlipidemia, hypercholesterolemia or other such conditions requiring mechanical testing measure to detect. What we are left with is piecing together a treatment protocol of some of the various symptoms such dizziness, head distention and pain, vertigo, red facial complexion, tinnitus, anxiety, irritability and anger, insomnia, bitter taste in the mouth, red tongue tip and/or fur and a wiry or bowstring pulse -- all of which are same of the symptoms that may accompany an underlying hypertensive condition.

### **Visualizing Hypertension**

#### **The Seven Blood Pressure Levers:**

- \_The amount of blood inside our blood vessels
- \_The viscosity of our blood (how thin or thick it is impacts how easily it flows)
- \_The strength of our heart (our pump)
- \_The rate of our heartbeat
- \_The flexibility, or ability for our blood vessels to relax and be less tense
- \_The reduction in external pressure on our blood vessels via weight loss
- \_The reduction of any blockages within or blood vessels

Below are some other common factors:

- \_Overweight individuals have more instances of hypertension.
- \_Changing hormones can affect your blood pressure levels.
- \_Genetics play a role in whether or not you have hypertension.
- \_Stress and anxiety can cause spikes in your blood pressure.
- \_Diabetics experience more instances of high blood pressure.
- \_Too much salt (sodium) is a contributing factor to high blood pressure readings.

- \_The shape of your blood vessels will help or hurt your blood pressure.
  - \_If your kidneys are in bad shape, this can cause high blood pressure.
  - \_Smokers receive a diagnosis of hypertension more often than non-smokers.
  - \_Overloading on alcohol can cause high blood pressure readings.
  - \_A potassium deficiency or vitamin D deficiency can contribute to hypertension.
- \_African Americans tend to have a higher risk of hypertension.

Primary hypertension accounts for the more common form and it can also be described as **Lifestyle induced blood pressure**.

**What Do the Numbers Mean?**

<b>Blood pressure category</b>	<b>Systolic</b>		<b>Diastolic</b>
	mm Hg (upper #)		mm Hg (lower #)
<b>Normal</b>	Less than 120	And	Less than 80
<b>Prehypertension</b>	120-139	Or	80-89
<b>High Blood Pressure Stage 1 (Hypertension)</b>	140-150	Or	90-00
<b>High Blood Pressure Stage 2 (Hypertension)</b>	160 or higher	Or	100 or higher
<b>Hypertensive Crisis (Emergency care needed)</b>	Higher than 180	Or	Higher than 110

**Etiology**

As stated, although the etiology of essential hypertension is unknown according to Western medicine there are a number of factors associated with this condition.

**Diet**

Other than the over consumption of sodium chloride which seems to be an aggravating factor with a number of hypertensive patients, some confusion exists as to the best dietary cause of hypertension.

Taking hypertension from the perspective of being associated with an overall deficiency or excess condition, there are some patients with an excess condition that will quickly respond by getting them off of sugar, alcohol and tobacco and putting them on a raw food and juice fast for a couple of weeks, or a vegetarian macrobiotic diet based on whole grains, vegetables and legumes.

In TCM terms this excess-type hypertension is described as being caused by heat (inflammatory) dampness and phlegm (a further congelation of dampness).

In Ayurveda it would be described as vitiated kapha and pitta. However, as we shall see, long-standing chronic hypertensive patients who have endured prolonged periods of digestive problems, stress and so forth who have endured a prolonged smooth muscle constriction that would lead to structural changes and thickening of the arteriole vessel walls possibly mediated by angiotensin, can develop irreversible rise in peripheral resistance. More about angiotensin later but suffice to say it is a hormone secreted by the liver as a result of stress and causes a vasoconstriction that results in high blood pressure.

While with the recent rise of the so called high protein and high fat 'paleo diet,' as a treatment for high blood pressure the conventional understanding is that a diet high in animal fat and sodium chloride, especially if the ration of sodium to magnesium and potassium is high. Low sodium and low fat diets in various remote areas of the world such as China, Africa and Brazil show virtually no evidence of hypertension even with advanced age. However when these groups migrated to industrialized area and changed their diet to include more animal fat and salt, hypertension proportionally increased in proportion to body mass and fat.

Other lifestyle choices also play a role in development of hypertension including:

- Smoking tobacco
- Sugar intake
- Alcohol
- coffee
- lack of cardiovascular exercise

Environmental factors such as heavy metals lead and cadmium also contribute to hypertension.

People with untreated hypertension often show a blood cadmium level 3-4 times higher than those with normal blood pressure.

Other suspected conditions that favor the development of hypertension include high birth weight, hypercoagulability, insulin resistance and cardiac diastolic dysfunction.

A small number of patients with secondary hypertension (2-5%) have underlying renal or adrenal disease.

### **Cardiac output and peripheral resistance**

The maintenance of normal blood pressure is dependent on the balance between cardiac output and peripheral vascular resistance. Most patients with hypertension have a normal cardiac output but a raised peripheral vascular resistance.

Peripheral resistance is not caused by large arteries or the capillaries but by small arterioles, the walls of which contain smooth muscle cells. Contraction of smooth

muscle cells is thought to be related to a rise in intracellular calcium concentration, which may explain why drugs that block the calcium cells cause a vasodilatory effect.

Prolonged smooth muscle constriction is thought to cause structural changes with a thickening of the arteriole vessel walls. This leads to an irreversible rise in peripheral resistance.

It is thought that early hypertension the peripheral resistance is not raised by elevated blood pressure is caused by stress induced sympathetic stimulation. Therefore peripheral resistance develops in the arterioles as a compensatory mechanism.

### **Epidemiology:**

It is estimate that there a more than 35 million hypertensives in the United States with high blood pressure occurring twice as often in African Americans than in white Americans. There is no consistent difference in the prevalence of diastolic hypertension between men and women. Diastolic pressure, however, does increase with age until 55-60 years and systolic pressure increases until the age of 80.

Therefore more than 50% of both white and African Americans suffer from some form of hypertension over the age of 65.

### **Signs and Symptoms**

Hypertension is called the “silent killer” because in its early stages it is asymptomatic. In fact, without measuring devices, traditional medical systems such as Western, Ayurvedic and Chinese traditional medicine did not identify hypertension as a specific disease. Rather, hypertension caused signs and symptoms, which included dizziness, facial flushing, headache, fatigue, epistaxis, anxiety and nervousness associated with deeper levels of organic imbalance. Thus the traditional treatment of hypertension involves treating underlying symptoms and causes involving specific organ functions.

### **Diagnosis**

Diagnosis is made with the assistance of a sphygmometer that measure diastolic and systolic BP. Because blood pressure fluctuates significantly between one reading and another, it is best to take several readings over the course of several days to average them out. Further, readings change from the use of one cuff to another. The size of the cuff is important especially if it is too small.

The upper limit of normal blood pressure in adults is 140/90mm/HG.

## **Drugs Used to Treat Hypertension**

Keep in mind that hypertension is the primary risk for stroke and heart attack and some people need to be on prescription drugs to control their high blood pressure. However, given the complexity of the underlying causes many people do not respond to drugs and may be able to control their high blood pressure without the need for expensive pharmaceutical drugs that often come with a variety of unpleasant side effects.

Following is a list of the most common high blood pressure medications commonly prescribed:

**ACE Inhibitors** How they work: This type of drug blocks the creation of a specific chemical in your body that causes your blood vessels to constrict. The result is that without this chemical, your blood vessels relax and allow blood to flow more easily than before.

Side effects include: hypotension, cough, headache, dizziness, fatigue, nausea, and renal impairment.

### **Alpha Blockers**

How They Work: Alpha-blockers also help with relaxing the blood vessels so that blood can flow more easily.

Side effects include: dizziness from rapid decreases in blood pressure, headache, pounding heartbeat, nausea, weakness, and weight gain.

### **Beta Blockers**

How They Work: Beta-blockers work by blocking naturally occurring epinephrine, also known as adrenaline. This has the effect of keeping your heart rate slower and pumping with less force, thereby pushing less blood through your system and lowering blood pressure.

Side effects include: fatigue, cold hands, headache, upset stomach, constipation, diarrhea, and dizziness.

### **Diuretics**

How They Work: Diuretics work by causing your body to get rid of water. This has two effects that are important to lowering blood pressure. First it reduces the volume of blood in your blood vessels (blood is made up of about 50% water), which creates less pressure inside your blood vessels. Second, as the fluid is being released out of your body it takes with it much of the salt, as well. This also helps to reduce blood pressure.

Side effects: Unfortunately a diuretic cannot distinguish between good minerals in your bodily fluid so it also flushes out many of the beneficial minerals such as potassium. Other side effects include weakness, muscle cramps due to flushing potassium out of your system, dizziness, blurred

vision, headache, fever, sore throat, ringing in ears, skin rash, nausea.

### **Vasodilators**

How They Work: Vasodilators work by opening up or dilating your blood vessels, creating more interior room for proper blood flow. This lowers the pressure inside the blood vessel due to the extra room created when the blood vessel expands.

In general most of the side effects of antihypertensives are distressing and include loss of sex drive, urinary incontinence, cold extremities, heart arrhythmias, fatigue, constipation and allergic symptoms and patient compliance is justifiably difficult. Furthermore, ace inhibitors and diuretics are of concern because they may result in depression and memory loss. Though on the plus side one major study found that those on antihypertensives did not experience a greater decline than those who were not.

### **Traditional Herbal Evaluation**

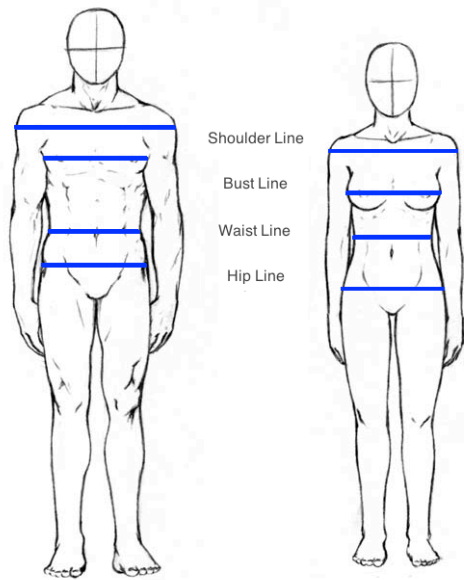
Hypertension not being a traditional disease we need to assess the condition as it may be associated with other diseases including type 2 diabetes, heart disease, erectile dysfunction, preeclampsia and eclampsia during pregnancy, obstructive sleep apnea, end-stage renal disease, kidney disease, proteinuria, endometrial cancer, multi-faceted dementia, liver disease, arteriosclerosis.

### **Treatment**

Because obesity and hypertension are strongly linked the waist to hip ratio (WHR) has been found to be the more accurate indicator of hypertension than either body weight or body mass index.<sup>1</sup> The absolute waste measurement of men is 102 centimeters or 40 inches. In women it is 88 centimeters or 35 inches.

### **WAIST TO HIP RATIO (WHR) NORMS**

Gender	Excellent	Good	Average	At Risk
Males	<0.85	0.85-0.89	0.90-0.95	>0.95
Females	<0.75	0.75-0.79	0.80-0.86	.96



## **DASH (Dietary Approach to Stop Hypertension) Diet**

To reduce belly fat one may need to go on a low calorie, low carbohydrate, higher protein and fat diet of no more than 800 to 1500 calories per day with no more than 30% of calories derived from fat cutting saturated fat from the diet. On the other hand, one may have significantly higher amounts of fresh whole fruits and vegetables, cooked or raw.

In addition, studies have confirmed that lactovegetarian diets have had a BP lowering effect<sup>2</sup> as well as a non-vegetarian diet high in fruit and vegetables.<sup>3</sup>

One should include nervine cocktail formula of herbs to reduce stress, the use of Triphala and guggul two or three times daily as well as Omega-3 fatty acids.

One should avoid the use of the following:  
Cold drinks that impair metabolism and digestion  
Sugar and fruit juice  
Alcohol  
Excessive napping and sleeping  
A modest reduction of salt intake

In addition one might undertake a routine of meditation, yoga, Qi gong, Tai Chi, as well as a regime of regular and frequent aerobic exercise program at least four days a week.

Thyroid levels should be attended to and/or possibly the regular use of cayenne pepper and garlic as well as tyrosine and forskolin to stimulate metabolism.

In addition one may need to stop or replace a variety of drugs that contribute to

weight gain (steroids, some antipsychotics, hormonal agents). Be sure to consult with a medical doctor before doing this.

Although this is a reasonable approach for longer term goals, high blood pressure on a short term needs to prevent a heart attack or stroke may require more life-saving aggressive medical intervention or herbal and physio-therapeutic strategies which I will discuss later.

Because of the close association between obesity and HPB, the above is the most preferred treatment for primary hypertension by natural practitioners,

However to not be too simplistic, there are many complex factors that play a role in hypertension. For one, blood pressure rises with aging with the risk of becoming hypertensive later in life being considerable. The relationship of HPB and genetics is still poorly understood but it has been found that hypertension can also arise as a result of the interaction of genes and various environmental factors.

Certainly if blood pressure is normalized one experiences a great sense of wellbeing. However, keep in mind that traditional medicine does not recognize hypertension as a disease but one of a number of symptoms of systemic imbalance.

## **Herbs Used for the Treatment of Hypertension**

### **1. Rauwolfia serpentina** (Sanskrit: Sarpagandha)

Rauwolfia root.

Latin: Rauwolfia serpentina

Sanskrit: Sarpagandha

African: Numerous (R. vomitoria species)

Chinese: Lu fu mu (various species)

English: Rauwolfia / Indian snakeroot

Rauwolfia root is bitter in taste and cooling in action. It lowers blood pressure, tranquilizes the mind, and promotes sleep.

It is considered an herb with many associated that safety issues mainly because of its strong

**SAFETY ISSUES:** Much of the extensive precautions regarding rauwolfia applies to those taking a higher dose or taking reserpine. However, it is good for one to know these as it could on occasion apply to the use of rauwolfia. It should only be administered under the guidance of a trained physician or herbalist informed in its proper use. The most obvious precautions are to avoid during pregnancy, breastfeeding, or **depression**. Do not combine with alcohol, barbiturates (Pfeifer



et al., 1976), SSRIs, blood-pressure lowering agents such as beta-blockers, unless under guidance. May exacerbate symptoms of Parkinson's Disease. Because it lowers Blood Pressure, the appropriate dose should be carefully individually determined and monitored.

- Rauwolfia should not be taken by people undergoing Shock therapy (Electroconvulsive therapy, ECT). Stop taking it at least one week before beginning ECT.
- Rauwolfia should not be taken with cold and flu medicines or appetite suppressants especially if they contain ephedrine type alkaloids. Doing so can cause a significant rise in Blood Pressure.
- Alcohol indulgence with rauwolfia can cause severe impairment reactions.
- Antipsychotics and barbiturates on the other hand increase the drug's effects.
- It should be avoided if one is taking digitalis glycosides to slow the heart rate down.
- Do not take rauwolfia when using drugs such as Viagra or Cialis.
- Rauwolfia might make gallbladder disease worse.
- Avoid using rauwolfia if one has stomach or intestinal ulcers, IBS or ulcerative colitis.
- Some may exhibit an allergic reaction to rauwolfia.
- Because rauwolfia has a history of use for psycho-emotional disease, it should be used with caution if someone is prone to depression.
- One of the causes of secondary high blood pressure is tumor of the adrenal glands (pheochromocytoma). Rauwolfia should not be used if this is the cause of HBP.
- **Surgery:** Indian snakeroot might speed up the central nervous system. There is a concern that it might interfere with surgical procedures by increasing heart rate and blood pressure. Stop using Indian snakeroot at least 2 weeks before a scheduled surgery.
- Drowsiness may occur, too, so the operation of vehicles or heavy machinery must be done with precaution.

**STARTING DOSAGE:**

Tincture (standardized to 1.0% w/v total alkaloids): a safe dosage is two to 12 drops three times per day. Begin low and monitor the results before increasing 1 drop at a time up to a maximum total of 20 drops 3 times daily.

**Comments:**

While learning about the indications and contraindications of Rauwolfia seem daunting and it should not be self prescribed or used by the novice herbalist, if used properly it is a safe highly useful herb with a history of popular usage in India. For those who are not being medically treated and suffer from anxiety, nervousness and hypertension, it is one of the most effective or the most effective herbal tranquilizing agent.

It is used in traditional medicine in India, China, Africa and many other countries. In India and Nepal, it is a common treatment for hypertension and insomnia. Gandhi took it frequently at night for its calming actions. It warrants a red rating because of its ability to cause severe reactions in overdose, including trembling and collapse. Reserpine, the chief alkaloid in rauwolfia root, seems to be the component responsible for its blood pressure lowering activity. According to Weiss (1988), medical doctors began using reserpine-based hypertension medicines in the 1950's, but it went out of favor because of its side effects, chiefly depression. If prescribed accurately with the lowest effective dose, whole root rauwolfia is safer than taking reserpine, the alkaloid isolate. Rauwolfia, appropriately enough is difficult, though not impossible to acquire but it should only be acquired and prescribed by a health care professional.

Much of the precaution regarding rauwolfia is because of the drug use as the alkaloid isolate, reserpine, During the scientific controversy in the 1950's the question of whether reserpine by itself was superior to the whole rauwolfia root was investigated by an Indian physician named Dr. Vakil. He reviewed all 151 studies available at the time and came to the conclusion that the combined action of the whole root improves tolerance and reduces the risk of side effects that occur with the use of isolated alkaloids (reported in Weiss, 1988).

**Research Highlights**

- The mechanism of action of rauwolfia root differs from most other blood-pressure lowering agents, acting on the central nervous system. This may explain why it works when other medicines fail (Weiss, 1988, Shibuya and Sato, 1985).
- In doses higher than those used for hypertension, rauwolfia alkaloids cause a depletion of norepinephrine, resulting in a tranquilizing effect. Very high doses can cause a loss of coordination (reported in Huang, 1999).
- Many patients who take medication to control hypertension still have problems

with balance, due to difficulties in circulatory regulation. Upon examination of blood-pressure lowering agents available up to 1980, researchers discovered that only Rauwolfia alkaloids and clonidin do not have an undesirable influence on balance (Teichmann and Vogel , 1980).

- In a Chinese study on 200 patients with moderate hypertension, rauwolfia alkaloids lowered blood pressure was reduced by as much as 30-40% with minimal side effects (reported in Huang, 1999).
- Rauwolfia root has proven highly effective (89%) in cases of chronic hives (reported in Huang, 1999).
- The pharmacological effects of reserpine were formerly cause for concern that it might promote breast cancer. However, in epidemiological studies, rauwolfia alkaloids did not increase the risk of breast cancer (Shapiro et al., 1984, von Poser et al., 1990).
- Rauwolfia root has occasionally proven effective in cases of malnutrition that were unresponsive to high protein or high-energy diets (reported in Huang, 1999).

Herbalists regard Rauwolfia as strong. One method used by Dr Alan Tillotson, a professional AHG herbalist, licensed acupuncturist and former student operates Chrysalis Clinic in Wilmington, Delaware frequently works in collaboration with medical doctors.

He wrote:

*“I have used a rauwolfia tincture safely to treat dozens of mild to moderate hypertension patients. We combine 30-50% of a standardized whole root tincture with other mild herbal tinctures known to lower blood pressure such as Herb Pharm’s Blood Pressure Support tincture. In mild cases, we start with two drops three times per day and perform regular blood pressure checks, instructing the patient to increase the dosage until the blood pressure normalizes or they reach the limit in dosage. Patients marvel at how effectively they can control their pressure drop by drop and control the dosage to manage day-to-day variations - especially important in patients with stress related hypertension. We stop dosing at well below the levels where side effects usually develop. If it does not sufficiently lower the patient’s pressure, the doctors will prescribe mild Western medication at a lower-than-normal dosage. This combination treatment will often work.*

*Rauwolfia root is not curative. Following traditional Ayurvedic procedure, once we have controlled the blood pressure we employ other herbal agents and lifestyle changes to resolve the underlying problems, especially hawthorn. Blood pressure increases are often the result of plaques in the vessels, reduced kidney function and concomitant retention of fluids, and diet errors.” – from a personal correspondence.*

## **Blood Pressure Support (Herb Pharm)**

A blend of the liquid extracts of:

- Hawthorn berry, leaf & flower (*Crataegus oxy.*) 25%
- \* Olive leaf (*Olea europaea*) 25%
- Linden flower (*Tilia cordata* & *platyphyllos*) 20%
- Bean pod [without beans] (*Phaseolus vulgaris*) 20%
- \* Mistletoe herb with berries (*Viscum album*) 10%

## **History**

- The use of rauwolfia is recorded in Hindu texts dating from around 500 B.C. In the West, it was unknown until 1943, when an Indian doctor wrote an article about the plant, emphasizing the efficiency of its sedative effects in treating high blood pressure. In the United States, reserpine had a rapid success in replacing the use of electric shock therapy and lobotomy for mental disorders.

References:

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- <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1532350/>

## **Carditone: Ayurvedic formula manufactured by Ayush herbs with Rauwolfia**

It contains magnesium aspartate 200mg, rose powder, boerhavia diffusa, indian coral 350mg, convolvulus pluricaulis 100 mg, tribulis terrestris, 100 mg, rauwolfia serpentine 50 mg, rosa vinca 25 mg

Recommended dose is 1 caplet daily

Other sources for rauwolfia are:

<http://www.indiamart.com/genius-natureherbs/herbal-herbs.html>

and

<http://mall.coimbatore.com/bnh/vasupharmaherbals/pureherbs/rauwolfiaserpentina.htm>

Currently the most commonly prescribed pharmaceutical that purportedly is similar to and may be based on Reserpine is called Clonidine.

Warning: do not take rauwolfia if one is taking antidepressants or other anti-hypertensive pharmaceuticals.

**2. Hawthorn (crataegus oxycanthus)** – is well known as a mild antihypertensive and relaxant (peripheral dilator). Hawthorn has a trophic effect on the heart muscle easing contraction while dilating the vessels for improved circulation. Long term gentle treatment. Weiss<sup>1</sup> says that it is not hypotensive but blood pressure improves or becomes normal as cardiac function improves. It is especially effective when combined with European mistletoe and rauwolfia. The flowers are mainly used but also the leaves and the berries. The complete cardiovascular benefit is achieved through a combination of a whole number of active principles, each too small to produce any assessable results pharmacologically. It contains a mixture of flavonoids such as hyperoside, rutin, flavonoglycosyls and oligomeric procyanidines, 1-epicatechol. With no one active principle this plant cannot be standardized. The compounds with cardiotoxic properties are mainly found in the flowers with the leaves and fruit containing a considerably smaller amount.

Hawthorn has a long-term, sustained effect on degenerative, age-related changes in the myocardium with improvement in coronary circulation developing with long term use. It is not the herb of choice to use by itself for a short term angina attack.

Because it is not directly hypotensive, combining it as a tea with European mistletoe and/or take 20 to 30 drops of the tincture first thing in the morning and immediately before going to bed with rauwolfia taken immediately after breakfast and after the evening meal. Chinese medicine uses the berries as a treatment for digesting protein, fat and oils.

### **Planetary Herbals:**

Hawthorn Heart – Hawthorn flowers and leaf extract, hawthorn berry, tienchi ginseng, motherwort leaf, Chinese Salvia, Polygala, dang gui, codonopsis, juniper berry and longan fruit.

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<sup>1</sup> Weiss, Herbal medicine, 1988 edition

Arjuna Cardio Comfort – Hawthorn leaf and flower extract, tienchi ginseng, guggul extract, Salvia milthiorrhiza extract, terminalia arjuna bark extract.

### **3. Hibiscus Flower (Hibiscus sabdariffa)**

A double-blind study of 60 patients with type 2 diabetes who also had mild high blood pressure took place in a randomized and controlled trial using hibiscus tea and black tea. Those who were given hibiscus tea demonstrated a decrease in systolic blood pressure by about 22 points, and a diastolic decrease of 3 points after one month, but those who drank black tea saw a substantial rise in their blood pressure a second group given captopril had a comparable effect to the hibiscus tea drinkers. (*Phytomedicine* 2004;11:375–82). Two tablespoons of dried flowers to a cup of hot water, steep 10 minutes and take at least once daily.

### **4. Motherwort (Leonurus cardiac) (Yi mu cao)**

Used in both Western and Chinese medicine as blood moving herb. Properties: pungent, bitter, cool Enters the Heart, Liver and Bladder meridians. It invigorates blood, regulates menses, lochioschesis, induces urination, reduces swelling, and treats edema. Dose: 8 – 60g

**5. Garlic (alium sativa)** In Ayurvedic herbal theory garlic is considered “tonic, hot, digestive, aperient, cholagogue and alterative.” Various simple Ayurvedic practices were used to administer garlic which are not all that different from some of those used in Europe and the US. One is to crush garlic in honey and take it to relieve coughs, flus, fevers, parasites, and other infectious diseases. Strong so-called crude herbs like garlic often require ingenious ways to administer in order to lessen their harshness. In Ayurveda, it is crushed and taken in boiled milk with the addition of honey.

Garlic and onions possess a number of sulfur compounds, which are responsible both for their odor and many of their properties. Allicin is an organosulfur compound which is major biologically active component of garlic. It was first reported by Cavallito and Bailey in 1944 that allicin is the key ingredient responsible for the broad spectrum anti-biotic properties of garlic.

When fresh garlic is chopped or crushed, the enzyme allinase converts allin into allicin and this is what is responsible for the odor of garlic. Thus allicin is produced when garlic cells are damaged. Allicin is responsible for the most potent antimicrobial and antioxidant properties of garlic. Numerous animal studies published between 1995 and 2005 indicate that allicin may reduce atherosclerosis and blood lipids, decrease blood pressure up to a potentially life-saving 10%, dissolve blood clots, and have anti-inflammatory properties.

Garlic with allicin has been demonstrated both in vitro and in vivo to have potent anti-bacterial and antiviral properties. The antiviral properties of garlic have been demonstrated against Herpes simplex 1 and 2, influenza virus, human cytomegalo virus, Influenza B, vesicular stomatitis and human rhinovirus.

A small (146 healthy adults) double-blind, placebo-controlled study<sup>4</sup> found that a daily garlic supplement standardized to contain 1800mg of allicin, taken daily dramatically reduced the risk of catching a cold by 64%, the symptoms duration was reduced by 70%. The treated group were less prone to catching a cold more than once a year.

One human study sponsored by Kwai garlic company in 1993 that a garlic tablet with a standardized dose of 1800mg allicin per dose taken daily over the course of 12 weeks led to 10% percent reductions in blood pressure.

Fermented garlic (kyolic) is a method of using mostly deodorized garlic. It does not contain any allicin so lacks at least the antimicrobial properties of garlic but it may retain some of the immunological and cardiovascular benefits. This is a controversial subject.

**Planetary Herbal's GarliChol** is specially prepared with no heat to preserve the valuable allicin compound. The enteric coating further ensures that the allicin will not be destroyed by stomach acids. Each tablet is guaranteed to yield 6000 mcg of allicin.

## **6. Cayenne pepper (capsicum annum)**

Energy and flavor: Spicy, hot

Properties: warming circulatory stimulant, blood moving, activating yang qi, pitta promoting, decongestant.

Organs affected: cardiovascular system

Constituents: Pungent principles including capsaicin, vitamin C, flavonoids, volatile oil, etc.

Dr. Christopher, an herbalist who regarded cayenne as the single most valuable herb, claimed that it was sovereign for all cardiovascular conditions because of its ability to quickly equalize blood circulation. He said that in over 30 years of practice cayenne never failed to stop a heart attack in less than two minutes. Dr. Christopher was a great herbalist, and the beloved mentor and inspiration of a generation of herbalists to follow. Having studied with him personally for some years, I can only say that for instance, he never mentioned any herb-drug adverse reaction, nor did he hear of or understand the concept of Chinese tonics. If he had known of the concept of 'yin deficiency,' which is an internal depletion of the fluidic aspects of the body causing inflammation, he, nor his predecessor herbalists dating back to the 19<sup>th</sup> century North American iconoclastic herbalist, Samuel Thomson who first extolled the benefit of cayenne for all ills, might not have been so overwhelmingly in support of cayenne for the ills of everyone.

Cayenne is a valuable herb, widely used by people throughout the world for practically everything. Recently I was on a tour visiting Russia and a number of people in our group were coming down with the flu and the only thing that held it at bay was one of two daily shots of commercially manufactured vodka infused with cayenne and honey. I once spoke with a native African from Ghana who said that everyone takes cayenne (known there as African Bird Pepper) daily to prevent and cure all diseases. Evidently the one disease it had no benefit for was the HIV AIDS epidemic which in advanced stages is a yin deficient condition leading to burning up of body substance giving it the popular label of the 'skinny' disease.

Cayenne is one of the best herbs for blood circulation making it a good candidate for the treatment of most cardiovascular diseases including weak arrhythmias, heart failure, atherosclerosis, hyperlipidemia and other blood stagnation conditions including aneurisms, embolisms and blood clots.

Cayenne is also an effective treatment for some types of hypertension conditions. It would be best to first understand what type of hypertension cayenne may not be good for, which is what TCM describes as "Yin Fire" hypertension or hypertension with an underlying condition of yin deficiency.

To fully understand yin deficiency we need to understand the physiological manifestation of Yin and yang in the body according to the basic principles of TCM. Yin and yang are two complementing and opposing constitutional factors which when in balance represent homeostasis, health and well-being. They refer to all the factors in the body governing metabolism or how things interact and work with each other. Yin is the anabolic, cooling, fluidic and solid aspect while yang is the catabolic, heating and moving aspect. If there is a deficiency of either the opposite quality dominates. Yin and yang governs all aspects of life, including our body, the food we eat, the climate we live in, the herbs and drugs we use as medicine. All affect yin and yang balance in the body.

There is a difference from 'yin vacuity' which is insufficient fluidic and cooling yin elements and what is formally described as "Yin Shu" or "Yin Deficiency" which is a more advanced state where yin has become so depleted that the body metabolic processes become auto-consumptive.

We need both yin and yang foods and herbs to activate the dance of life in our own bodies just as the world requires the female, yin aspect of being along with the male, yang aspect. Too much leads to imbalance and chaos.

So hypertension caused by Kidney and Liver yin deficiency requires more cooling and Yin and Blood nourishing herbs and cayenne pepper which is very hot would be contraindicated.



This is why the major formula used for yin-fire or yin deficient hypertension includes a number of herbs that are blood and yin nourishing, calming and heat clearing or anti-inflammatory. The formula also includes diuretic herbs because while yin deficiency is characterized by a lack of yin fluids, dryness and heat, the body may still be belabored by evil dampness or fluid congested in the wrong places, which needs to be discharged.

The classic signs and symptoms of yin deficiency hypertension apart from the more common symptoms that occur in other 'excess' patterns which are dizziness, headache, tinnitus, red face, vexation and agitation but with yin deficiency, there will be signs of dryness, malar flushing, red tipped scarlet tongue, with scanty or no fur and a fine, rapid pulse. Here tongue and pulse are important factors to determine a contraindication for the use of cayenne.

Unfortunately and sadly, too few realize this most basic of all diagnostic distinctions which may prevent any number of possible adverse reactions generally but especially to cayenne for the treatment of hypertension.

Even if one is not sure of one's diagnosis, knowing this can allow one to be wary of possible indications that could lead to a more serious result. It usually doesn't take more than a day or two to realize from a person's reaction whether cayenne would be appropriate or not.

So while we may witness or read about many positive outcomes from the use of cayenne for hypertension there are a few negative ones. These are extreme and should not be regarded as a reason to not try cayenne but they are worth noting as a small reality check to the widespread advocacy of cayenne for all heart conditions.

There is a case of a 41 man who was otherwise healthy in all respects who suffered an acute myocardial infarction while taking cayenne pepper pills daily as part of a weight loss program.

<http://www.ncbi.nlm.nih.gov/pubmed/22527825>

Another of a 25 year old male, also otherwise healthy who experienced the same.

<http://www.ncbi.nlm.nih.gov/pubmed/22264348>

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3284873/>

And still a third, which to me seems far less credible, who experienced the same after using a capsaicin patch.

All of these were reported on Pub Med.

Still another other factors to consider before administering cayenne for all heart conditions were those that unfortunately Dr. Christopher and his 1000's of red-hot-chilli-pepper followers who advocate cayenne for all acute and chronic cardiovascular disorders is whether the patient is taking various heart

medications especially blood thinners for which cayenne with its blood thinning properties may be contraindicated or at least should be carefully monitored.

Finally taking any strong spicy herb in close conjunction with any herb or drug causes the effects of the drug to amplify, go deeper and last longer. While this is an excellent principle when creating an herbal formula to which a little cayenne is added, it could be a serious problem if one is taking a dose specific drug with a narrow margin of safety.

Again none of these should mean that one should be overly cautious or worried about using this powerful herb. Indeed, it is unlikely that any government agency could limit our access to hot salsa or Tabasco sauce but when specifically used as treatment an informed herbalist should be aware of the energetic properties of cayenne.

From an Ayurvedic energetic perspective cayenne is more likely to be beneficial if someone has a kapha or vata condition while in TCM, anyone with excess signs of stagnation, dampness or phlegm. I prefer to either take Solaray's Cool cayenne which is buffered with cooling, demulcent herbs or to mix it with olive oil which its yin-soothing properties that will offset some of the more irritating effects of cayenne.

One may ask, how is cayenne with its heating properties effective for relieving pruritus, psoriasis, rheumatic pains, sore throat, headache, stomach pains, and so many other inflammatory and infections conditions including stomach and Gi tract ulcers? Did you ever hear of fighting fire with fire? The method is to burn off the unwanted toxins and substances that would feed the inflammation so the body can heal itself. Again, this method is effective for all except those with underlying yin deficiency. In a similar way, cayenne is effective for stimulating metabolism as a strategy for weight loss.

How to take cayenne

Begin by taking a quarter teaspoon of cayenne pepper with a teaspoon of olive oil. Gradually increase until you are up to a teaspoon three times daily. This can be gradually increased to a level teaspoon of cayenne three times daily. Or one can take "Capsi-Cool" with glucomannan as a soothing buffering agent formulated by Nature's Way or Solaray's "Cool Cayenne."

According to the iconoclastic self-made North American herb doctor of the 19th century, Samuel Thomson, the many that started the cayenne-as-a-cure-all craze that has gone around the world and continues through the teachings of Dr. Christopher up to the present with his student Richard Evans Schultes who calls himself "Dr. Cayenne" and his followers, cayenne works by restoring vital heat to the core of the body so as to optimize health and burn away impurities. Over 200 years of use of cayenne pepper for practically every ill known to humankind attests its wide range of benefits.

From my point of view and this is definitely at the core of traditional herbal systems including TCM and Ayurveda, the two most important areas for health and healing in the body are digestion and circulation. Cayenne just happens to be effective for both areas again provided the individual does not have yin deficiency,

We've warned of the few areas of danger with the use of cayenne so how safe is it actually? In a word, VERY!

Besides Dr. Christopher beginning his lectures chugging down three heaping tablespoons with a 'b' of cayenne in a glass of water, he also told of a young girl who accidentally had a large amount of cayenne splash in her eye and while it burned like heck, after washing her eyes out she came out seeing brighter and clearer than ever. This led to his formulating his famous eyewash, which he and many others have used for the treatment of eye diseases including cataracts and glaucoma. I've often wondered if this has not led to its use in pepper spray as a deterrent to attackers or by police for riot control?

Thousands of individuals have experienced positive benefit for cardiovascular diseases including hypertension. Following is a recent study that seems to support its widespread benefit for high blood pressure.

A 2010 study published in "Cell Metabolism found that a receptor called TRPV-1 was activated in mice when they consumed capsaicin, which lowered the blood pressure. <http://www.ncbi.nlm.nih.gov/pubmed/20674858>

Another study published in "Current Medicinal Chemistry Cardiovascular Hematological Agents" in 2003 found that capsaicin affects sensory nerves that work with neuro-hormonal systems to help lower blood pressure. [http://science.naturalnews.com/2003/5601844\\_Capsaicin\\_sensitive\\_sensory\\_nerves\\_and\\_blood\\_pressure\\_regulation.html](http://science.naturalnews.com/2003/5601844_Capsaicin_sensitive_sensory_nerves_and_blood_pressure_regulation.html)

More research needs to be done in human subjects to determine definitive associations between capsaicin and blood pressure, so consult your health care provider before using capsaicin for your condition.

**7. Kidney Bean pods** (*Phaseolus vulgaris*) mild herbal diuretics useful as an adjunct herb for the treatment of hypertension associated with fluid retention.

**8. Linden Flowers** (*Tilia europaea* et species) the flowers and bracts are used in tea and has mild demulcent, anti-inflammatory, expectorant, sedative, astringent, antispasmodic, diuretic and antimicrobial properties. It is usually combined with other herbs such as hawthorn for the treatment of nervousness and mild hypertension.

**9. Mistletoe, European** (*Viscum Album*) European Mistletoe has a long history of use for the treatment of delirium, hysteria, neuralgia and nervous debility. European herbalists regard mistletoe as an antispasmodic and specific treatment for St Vitus's Dance, Epilepsy and other convulsive nervous disorders. It has been used as a treatment to lower anxiety, promote sound, restful sleep and lower blood pressure. Mistletoe has other benefits for spasmodic coughs, arthritic pains and certain types of cancer. It is considered a mild hypertensive agent compared to *rauwolfia*.

Chinese medicine uses a species of mistletoe called "san ji sheng" that grows on mulberry trees for the treatment of arthritis, lower back and joint pains. European mistletoe contains lectins I, 11, and 11 (glycoprotein), viscotoxin (protein), galacturonan, arabinogalactan (polysaccharides), and alkaloids.

#### **American mistletoe**

(*Phoradendron leucarpium*) is considered to be too potentially toxic, contains phoratoxin which is similar to viscotoxin in European mistletoe. Both slow the heartbeat and lower blood pressure but American mistletoe much more so while European mistletoe when used in proper dosage is considered generally safe.

Finally all mistletoe fruits are highly toxic.

#### **Dosage and Administration**

Dried leaves – 2-6 grams

Tincture: 1:5 solution in 45% alcohol, 0.5 ml or 5 to 10 drops taken orally three times daily.

Because of the required lower dose of European mistletoe and its confusion with its more toxic American counterpart, European mistletoe has fallen out of use by many herbalists. It is definitely an important herb to consider for the treatment of high blood pressure.

**10. Olive Leaf** (*olea europaea*) has peripheral vasodilatory, antispasmodic, antiarrhythmic, diuretic, antihyperglycemic, cholesterol and triglyceride reducing, antipyretic and antioxidant properties.

One study reported in *Phytomedicine* in 2011 using 232 mildly hypertensive patients defined as systolic 140-159 and diastolic as 90-99 found that an olive leaf extract at 1,000 mg daily reduces high blood pressure effectively and safely. They conclude that, "The anti-hypertensive activity of the extract was comparable to that of Captopril, an ACE inhibitor, given at its effective dose of 12.5 to 25 mg twice daily." They also note that the combined effect of reducing blood pressure, triglycerides, and LDL in those receiving olive leaf extract was an additional benefit.<sup>5</sup>

As a result of these and other findings, olive leaf extract figures prominently in many anti-hypertensive formulas such as Herb Pharm's Linden-Mistletoe Compound which combines olive leaf with hawthorn, mistletoe, kidney bean pods and linden flowers.

**11. Arjuna (*Terminalia arjuna*)** “Triphala for the heart” even though it is the bark of the tree that is used while Triphala uses the fruits of related species. The most important ayurvedic herb for the heart. It is cardio-tonic and nutritive and strengthening to the heart muscles, It normalizes arrhythmias, and the heart rate. It is also helpful for edema. It reduces the clotting tendency of blood, reduces the stress and nervousness of the heart and helps in reversing atherosclerosis.

It is classified as pungent, cooling (anti-inflammatory), kapha and pitta pacifying, restorative, helpful in wounds, tuberculosis and poisoning, good for obesity and urinary tract disorders. Drug dosage dependent on the reduction in blood pressure and heart rate with high dosage causing hypotension in anaesthetized dogs. It relieves symptoms associated with primary hypertension viz. giddiness, insomnia, lassitude, occipital headache and poor concentration. Coagulation, bleeding and prothrombin time can be reduced by oral use. It is also hypolipidemic, normalizing blood lipids both cholesterol and triglycerides. It also enhances LDL cholesterol in the liver. It also relieves angina of which over 6 million people in the US suffer. Arjuna prevents oxidative stress to the heart, myocardial injury, and hemodynamic effects induced by ischemic reperfusion injury. Studies substantiate its preventive role for ischemic heart injury. *Terminalia arjuna* is also beneficial for congestive cardiac failure. Arjuna is also beneficial for as an adjuvant for lung diseases such as tuberculosis. Finally arjuna the tannins and triterpenes (phenolic compounds) have antimutagenic or anticancer properties especially for breast cancer. It is one of the most specific herbs for helping to heal the endothelial dysfunction causing atherosclerosis caused by smoking. Arjuna and combines well with other herbs for the heart and especially with CoQ10 which it contains. In addition it contains flavonoids arjunone, arjunolone, luteolin, gallic, ellagic and oleanolinic acid, phytosterols (beta-sitosterol). Trigerpenoid saponins: arjunolic acid, arjunic acid, arjungenin, arjunglycosides, along with calcium magnesium zinc and copper. Despite the fact that Arjuna has many of the effects of cardiac and hypertensive drugs, it has no side effects. Since the early 50's numerous clinical trials have been conducted in China and in the US using *Eucommia* to treat high blood pressure. Most of these showed promising results. Chinese doctors believe that *Eucommia* does not only work to lower blood pressure but to regulate it according to one's needs. Therefore *Eucommia* has been demonstrated to be effective for both moderate to severe hypertension.

Planetary herbals was one of the first to introduce Arjuna to the US herb market and it is available as a single capsule and in others heart formulas such as Arjuna Cardio Comfort. Dosage of Arjuna full spectrum Planetary is 500 mg tablet containing 500 mg of the bark powder and 50mg of the bark extract (1:1).

Two to four tablets can be taken 2 or 3 times daily.

**12. *Eucommia ulmoides*** (Du zhong) comes from the bark of a tall rubber tree and looks like dried snakeskin. Throughout the centuries, it has been given to people with blood pressure difficulties and related heart problems with great deal of success. Since early 50s, numerous clinical trials have been conducted in China and in the US using *Eucommia* to treat high blood pressure. Most of these trials showed promising results. According to Chinese theory *Eucommia* works by not just lowering blood pressure, but balancing it and adapting your body's needs. As opposed to the Western view of "overkill", the same amount of *Eucommia* will work just as well for someone with slightly high blood pressure as it will for someone with severe problem.

The action of stir-fried eucommia is stronger than the raw and the decoction is more effective than the tincture. It reduces the absorption of cholesterol, is tranquilizing, and diuretic. While it is classified as a Kidney Yang tonic, meaning that it has hormonal properties, it empirically is used both by the Chinese and Russians to reduce blood pressure with no side effects. Chinese medicine classifies it as having a sweet flavor, warm energy and affecting the TCM Kidney and Liver organs and channels. It is prescribed to strengthen the bones and muscles, lumbago impotence, frequent urination, threatened abortion, weakness of the lower extremities and hypertension. The dose in decoction is 9 to 15 grams daily. One study sponsored by Pennington Biomedical Research Center by Dr. Frank Greenway that was begun in 2007 and completed in 2013. The study was conducted over a period of 5 weeks using thirty health subjects between the ages of 18 and 70 years with less than 2 cardiovascular risk factors and an average blood pressure of 120-160/80-100. The subjects were asked to take 2 capsules e times a week. The capsules could contain 1 grain of eucommia extract or a placebo with subjects having a 50-50 chance of receiving the eucommia or placebo *The conclusion of the study found that eucommia extract acts as a beta-adrenergic blocker, dilating blood vessels and arterioles to improve circulation like the beta blocker drug propranolol but without the associated side effects.*<sup>6</sup> This indeed makes this herb a useful alternative for those suffer from hypertension, angina, arrhythmia, and for the treatment and prevention of other cardiovascular disorders.

Another Chinese *Eucommia* study quoted in Chinese Medical Herbology and Pharmacology by John and Tina Chen (art of Medicine Press) suggests that eucommia leaves may be even more potent than the more expensive bark in relieving hypertension.<sup>7</sup>

#### **14. *Gastrodia elata* (Tian Ma)**

Energy and flavor: sweet, balanced

Organ channel affected: Liver

Treats Internal Liver Wind symptoms of dizziness, headache, hemiplegia, hypertension, epilepsy, convulsions, paralysis, Bell's palsy,

Dose: 3-10 gms

One study demonstrated the efficacy of acidic polysaccharides from gastrodia on systolic high blood pressure and high serum lipids on spontaneously hypertensive rats.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3269714/>

#### **14. *Armillaria melea* (Mi Huan Jun) (Honey Mushroom)**

One of the most common mushrooms that happens to serve as an identical substitute to the more expensive orchid gastrodia elata (Tian ma). It was found that gastrodia elata requires a fungus to sprout its seeds and *Armillaria melea* mycelia must be incorporated into its tuber in order to maintain maturation and growth. In fact that pharmacology of *Armillaria* and *Gastrodia* is a simply glycoside, *Gastrodin*. Both botanicals are now used interchangeably as antispasmodics (Internal Liver wind). Like *Gastrodia*, *Armillaria* dispels wind, promotes blood circulation, stops pain, strengthens the sinews and bones. Dosage in decoction: 30-60g

#### **15. *Uncaria ramulus cum uncis* or *Uncaria rhynchophylla* (Gou teng)**

Part used: stem and thorn

Energy and flavor: sweet and slightly cold

Organ meridians affected: Liver, pericardium

Internal liver wind with symptoms of tetany, convulsions, child fright, clenched jaws, epilepsy, clears heat and calms the liver. Headache and dizziness with liver yang rising, liver fire. Has a calming effect and used for night crying, fright checking infants. Often combined with *Gastrodia*.

Commonly used in recent years for hypertension.

Dose: 10-15gm

*Uncaria rhynchophylla* is a common climbing vine with little hooks. The plant has been used for hundreds of years by people with stress, anxiety and fever. It is a Chinese relative of South Amazon Cat's Claw (*Uncaria tomentosa*) though it is not clear that it has the same antispasmodic properties as *Gou teng*. *Gou teng* works on the heart and brain, opening up blood vessels to allow blood to flow more freely throughout the body and prevents clogging, pooling and pressure build-up. *Uncaria* also increases the respiratory rate, so that more oxygen could be delivered by the blood to the organs that needed it the most, like the heart, brain and kidneys. *Uncaria* has multiple sites of action. In other words, it not only relaxed blood vessels and normalized blood pressure, but also balanced heart rate and cholesterol, two key causes of blood vessel stiffening. Clinical trials has established that *Uncaria* lowers blood pressure by an average of 33%.

#### **14. *Salvia Miltiorrhiza* (Dan shen) Chinese red sage root**

Properties: bitter, cool

Organ meridians affected: Heart, Pericardium, Liver

Dosage: 5- 10 gms

One of its primary biochemical constituents is Tanshinone

Salvia miltiorrhiza is widely used either alone or in combination with other herbs for patients with coronary artery disease and other cardiovascular diseases because it:

- Improves blood circulation
- relaxes and widens blood vessels, especially around the heart
- suppresses the formation of thromboxane, which reduces blood clots from forming
- inhibits platelet adhesion and aggregation, which also reduces blood clots from forming
- protects against myocardial ischemia (a painful heart condition caused by lack of blood flow to the heart)

### **Salvia miltiorrhiza helps reduce blood pressure**

Although large clinical trials have not been done in the U.S., numerous studies have been done in China. One thing that has been well established is that Salvia is able to lower blood pressure in animals by inhibiting ACE (angiotensin converting enzyme), which causes blood vessels to narrow and blood pressure to increase.<sup>2</sup>

### **Is a potential remedy for angina**

Scientific studies A recent study at the University of Hong Kong, China examined the effects of Salvia on laboratory animals with elevated blood pressure. The scientists found that one of the extracts in the herb reduced blood pressure more than placebo, and that its cardiovascular effects are actually more prominent when blood pressure is elevated.

Researchers at the University of Traditional Chinese Medicine in Beijing, China divided 96 senile patients with high cholesterol into two groups. Fifty-six patients took Salvia and the 40 patients in the control group took red yeast rice (xue zhi kang) capsules.

The Salvia supplement was superior to the control (red yeast rice) in reducing total cholesterol, LDL cholesterol (bad cholesterol), and factors that contribute to higher risk of blood clots (thromboxane and fibrinogen). The researchers concluded that Salvia was able to regulate metabolism of blood lipids, and support healthy vascular endothelial function and blood coagulation in this patient population.

### **Caution:**

Patients who take Coumadin (warfarin) or who have a bleeding disorder should not take Salvia miltiorrhiza.



Patients who take blood pressure medication should speak with their health care practitioner before taking Salvia.

Pregnant women and nursing mothers should generally avoid taking Salvia or any blood moving herbs.

Planetary Herbal's Salvia tablets, Arjuna Cardio Support

### **17. Apocynum Venetum (Lu Bu Ma), Chinese Dogbane**

- Only the leaf should be used as the root contains strong cardiac glycosides.
- It clears heat, drains dampness, soothes the nerves, treats depression, lowers blood pressure and strengthens the heart.
- Dosage in decoction: 6-9g
- Note this may be different from Western dogbane *A. cannabinum* which is claimed to raise blood pressure. *A. venetum* is safe to drink and may have bioactive compounds similar to hyperforin (St. Johnswort).

### **18. Haliotidis concha (Abalone shell) (Shi jue Ming)**

Energy and Flavor: salty, cold

Organ meridian: Liver

- Ascendent hyperactivity of Liver-Yang caused by Liver-Kidney vacuity, manifesting a dizziness. Combine with yin-nourishing and liver calming herbs raw Rehmannia root (sheng dihuang), white peony root (Bai shao), oyster shell (muli).
- Liver Yang rising caused by liver fire, dizziness, headache, vexation, agitation and irascibility. Combine with heat clear and liver calming herbs such as *Prunella spicae*, *Uncaria* (gou teng) and chrysanthemum flowers. Dose: 15-30g crushed and predicted.

**19. Rhodiola / Hong Jin Tian (Rosea & Crenulata species)** Rhodiola is an extraordinary herb. It naturally grows in the harshest environments in the world. In the Orient, it is called "Plateau Ginseng," because the Tibetans considered Rhodiola to be a sacred herb. It has been used by the Tibetan people as a powerful adaptogenic vitalizer and as a substantial medicinal agent since the beginning of Tibetan civilization. While now recognized as one of the prized adaptogens associated with Russia. Rhodiola has also been prized by the Chinese and was very positively reviewed in the first Chinese herbal classic over two thousand years ago. It was regarded as a life-prolonging, wisdom enhancing "superior herb."

It was used by the Tibetan monks to enhance their inner spiritual power, the power of concentration and physical endurance. Many believe it to be more powerful than Ginseng. It is a superb herb for people who work very hard, either physically or mentally. It improves endurance and mental capacity, including

memory enhancement as is a wonderful tonic and energizer for physical fitness as well those who work at a desk or computer terminal for long periods of time. The consumption of a small amount of Rhodiola extract significantly improves a person's capacity to absorb and utilize oxygen. By relieving physical and emotional stress, rhodiola has been found to be extremely beneficial to the cardiovascular system, and has been found to prevent heart disease. According to Bob Flaws, rhodiola is a great herb that 'upbears the clear in order to downbear the counterflow and subdue yang."

Energy and Flavor: Slightly warm and astringent

Organ Meridian Systems Heart, Kidney, Liver, Spleen, Lung

Part Used: Primarily the root, but to some degree the stem may be included

Primary Functions Rhodiola is nourishing to the lungs and respiratory functions, it is antipyretic, and vitalizing.

Scientific Data Rhodiola's root and stem are mainly used but the whole plants can also be used as a precious tonic.

The major effective contents are Salidroside (C<sub>14</sub>H<sub>20</sub>O<sub>9</sub>), Tyrosol (C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>), P-Sitosterol, Ethyl Gallate, Gallic Acid, flavones, phenol compounds, 35 kinds of biologically active trace elements (i.e., Fe, Al, Zn, Ag, Co, Cd, Ti, Mo, Mn, etc.), as well as volatile oil. Rhodiola crenulata also contains 18 amino acids which are needed by the human body, 7 of which cannot be produced by the body. Such a spectrum of bio-nutrients is seldom seen in any other natural plant. Salidroside, Tyrosol and Sitosterol mainly enhance the resistance of the human body for adapting to stressful conditions and adjust physiological functions for restoration. It has double-direction adjusting effects on the nervous system and endocrine system, and possesses many kinds of physiologically active components which studies have shown have anticarcinogenic, antiviral, and antimicrobial activity.

### **Herbs that Raise Blood Pressure**

Panax ginseng (ren shen), Licorice (gan cao), Ephedra (Ma huang), deer antler (lu rong) citrus peel (zhi shi), angelica, asarum, psoralea corylifoliae, artemisia wormwood, mint.

### **Hypotensive Foods**

Hawthorn, chrysanthemum flower, celery, onion, garlic, carrot, shepherd's purse, kelp, mushrooms, apple, pear, tangerine fruit

### **Hypertension and Traditional Chinese Medicine**

Traditional Chinese Medicine has a unique approach to the diagnosis and treatment of disease. Specific diseases have identified and known since ancient times and these include most of those that are recognized and given names specific names in Western medicine. However while treatment of the disease and its symptoms is of first importance and called "branch" manifestation, TCM also recognizes the need to treat the underlying cause (s) or 'root' as well.

Hypertension or high blood pressure (HPB) is, as stated a different story, it was not recognized as a disease in TCM and must be diagnosed with the use of a sphygmometer, a device that was non-existent before 1896 when it was first invented. Even though it is not classified as a disease there are clinical situations where severe prolonged HBP is considered a potentially life threatening condition and requires some form of healing intervention.

In all cases the preferred treatment as stated is dietary and lifestyle intervention. But for those times when such an approach is unresponsive or requiring time to take effect, medical intervention with drugs or herbs is appropriate and advisable.

Despite the fact that there is no concept and diagnosis of hypertension in ancient China, TCM physicians have still attempted to treat it using TCM principles. According to TCM principles the nearest category of traditional disease patterns hypertension falls into is “vertigo or headache.” This doesn’t mean that hypertension is either of these but that the treatment strategy patterns of treatment for these conditions most nearly approximates what has been found to be a clinically effective treatment in modern times.

Ancient Chinese physicians realized that there is a direct connection between a specific disease pattern and a corresponding herb or formula. When such a pattern and corresponding formula was discovered, it was repeated by successors over time spanning 100’s to 1000 years of more constituting a unique clinical trial.

### **The case for Evidence-Based Medicine for the Treatment of Hypertension**

The modern treatment of hypertension with TCM provides a unique use of the principle of Evidence-Based medicine (EBM) developed in the 1990’s as an especially useful application of a new paradigm for medical practice. Evidence-Based medicine is used as an alternative to the more costly double-blind, placebo controlled for using drugs and herbs based on the judicious, and conscientious use of the best evidence in making decisions for preventing diseases, promoting recovery and improving life quality. Applying this methodology has had a major impact on the efficacy and safety of previous widely accepted strategies including herbal medicine. It is widely accepted and advocated in current cardiology practice providing treatment that is evidence based and global in scope. Because of its long history of safety and efficacy, TCM and EBM have a close relationship especially when there is a shortage of objective and quantitative criteria.

Just as the use of the Ayurvedic herb Rauwolfia Serpentina was originally intended for use as a sedative for manic and psychotic behavior and in recent times was found to be very effective for the treatment of hypertension, so also in TCM patients using herbal formulas for the treatment of different types of “vertigo” or “headache” while not fully consistent with the diagnosis of hypertension, still have a good clinical effect for hypertension today.

Diagnoses in Traditional Chinese Medicine is based on a differential system of pattern differentiation beginning with Eight Principles and then organ systems diagnosis. Diagnosis begins with making an assessment as best as possible based on the Eight Principles.

**Eight Principles involves determined according to the following parameters:**

<p>External (acute) – the skin, head and limbs are all regarded as exterior. Symptoms include aversion to cold or wind, fever, headache, rheumatic problems, skin diseases.</p>	<p>Internal (chronic) – involve the inner organs, symptoms are various and changeable, overexertion, improper diet, excessive emotional changes, etc.</p>
<p>Hot – classified according to its location (exterior or interior), its nature, excess (sthenic) or deficiency (asthenic). External heat slight aversion to wind and cold, moderate fever with or without perspiration, headache, slight thirst, white or yellow thin tongue coat, red tip of the tongue, floating and rapid pulse. Internal Heat – high fever, absence of chills, aversion to heat, thirst, preference for cool drinks, red complexion, scanty, dark yellow or cloudy urine, dry stool or constipation, strong odor, red tongue body with yellow coat, full and rapid pulse. Hypermetabolism</p>	<p>Cold - classified according to its location (exterior or interior), its nature, excess (sthenic) or deficiency (asthenic). <u>External cold</u> is an aversion to cold or wind, low grade fever, absence of sweat, headach, stiff nape, arthralgia, white and thin tongue coat, floating and tight pulse. <u>Internal cold</u> with symptoms of cold intolerance, cold limbs, pale complexion, pale tongue with a white and moist coat, deep and slow pulse, soreness and coldness of the waist and knees, long, clear urine, loose stool. – Low metabolism.</p>
<p>Excess (sthenia) – <u>Exuberance of pathogenic evils</u>, newly suffered, acute, loud voice, extroverted, excited, gruff, aching parts are resistant to touch, extreme joy or anger, tongue is red, full, thick, with thick yellow coat, pulse is with force.</p>	<p>Deficiency (asthenia) – <u>Low vital energy</u>. Chronic illness, listless, low voice, shallow breath, aching part longs for deep pressure and warmth, melancholy, grief, fear, terror, tongue is tender looking, thin, white coat, pulse is weak.</p>
<p>Yang (hypermetabolic)</p>	<p>Yin (hypometabolic)</p>

In addition there can be a coexistence of exterior and interior symptoms caused by pathogenic evils penetrating the body.

There can be a mixture of cold and heat signs, different location of cold or heat (upper body, or lower, etc.). Furthermore cold can transform into heat. In critical condition, cold may look like heat or heat may look like cold. There can be true cold and pseudo heat, true heat with pseudo cold. Generally speaking pseudo

cold or heat dominates externally while true Cold and Heat dominates internally and deeply. Therefore one relies on the tongue and pulse to make these determinations.

There can be a mixture of sthenia and asthenia with symptoms of tympanites, swollen abdomen with varicosities, sallow complexion, emaciation, edematous limbs, abdominal distension after meals, red prickled tongue with yellow and dry coat, relaxed, weak pulse, deep, thread, rapid. These indicate a sthenic syndrome caused by stagnation of vital energy and blood, which results in Spleen-Kidney asthenia. Upper sthenia with lower asthenia is common with many patients with hypertension. There may be symptoms of dizziness, palpitations, vexation, insomnia, etc.

Yin and Yang is either a guideline for the other six principal syndromes or a pair of specific syndromes contrary to each other.

Through observation and questioning, one determines which of the following applies and diagnosis is accordingly made. This is the most fundamental analysis one can and should make where a majority of indications on the right or left side of each column becomes a guide to developing an appropriate treatment strategy.

Obvious is a patient exhibited all symptoms on the right column their condition would be cold and deficient, requiring warm, tonifying treatment approach. If the symptoms were all on the left column, the approach would be cool, dispersing or detoxifying.

For examples:

External-Excess-Heat indicates cooling, anti-inflammatory, diaphoretic strategy

Internal-Deficient-Cold indicates internal warming, tonification strategy

Internal-excess-cold indicates an internal warming strategy

Internal-Deficient-Heat indicates yin deficiency and requires cooling, yin tonic strategy.

External-excess-Cold indicates warming strategy, perhaps stimulating diaphoretics.

Etc.

Yang and Yin represents an overall assess based on all the six previous plus an evaluation of sympathetic (yang) versus parasympathetic (yin) predominance.

## **Blood Versus Heart Rate (from the teachings of Jimmy Chang)**

Used to help determine 8 principles Excess, Deficiency, heat or cold.

It is also useful to assess the true condition of the patient when subjective complaints contradict objective findings.

4 types

Type one

- Systolic – high (above 140)

- Diastolic – high (above 90)
- Heart Rate – fast (over 85)
- Assessment: Excess Heat
- Clear excess heat, do not give tonic herbs
- Contraindication: do not use tonic herbs and formulas even if all the symptoms reflect deficiency.

#### Type two

- Systolic – low (below 95)
- Diastolic – low (below 60)
- Heart rate – slow (less than 60)
- Assessment: Deficient Cold
- Treatment Principle: Tonify using herbs such as ginseng and/or ashwagandha
- Contraindication – do not use purging, detoxifying herbs

#### Type three

- Systolic – high (above 140)
- Diastolic – low (normal)
- Heart rate – slow (less than 65)
- Patient is not on blood pressure medication
- Assessment: Blood stagnation  
The flow of blood is obstructed so that the pressure within the vessels is high creating a higher BP with a slower heart rate because of the stagnation.
- Treatment: move blood using herbs such as chinese red sage, motherwort, etc.
- Usually with blood stagnation there is water retention. Check the leg for pitting edema along the tibia halfway up between the ankle and the knee

#### Type four

- Systolic – low (below 60)
- Diastolic – low (below 60)
- Heart rate – fast (over 80)
- Assessment: Yin deficiency  
B is low because there is not enough substance especially blood or yin  
HR is fast because of heat
- Patient is usually skinny, exhausted and may have insomnia
- Assessment: Tonify Yin  
use acid-sour herbs to tonify the liver such as schizandra or cornus berries, ohiopogon, American ginseng  
Eat more protein

All assessment methods should be systematic, know what you are looking for and don't get lost in the patient's descriptions which are often confusing and misleading.

Follow the method of

- Assessment
- Treatment Principle
- Treatment

Too often we make the mistake of not defining to ourselves either the assessment or the treatment principle as we eagerly only prescribe hawthorn or garlic for instance for hypertension, or put everyone on some type of restricted diet.

It is from this that one decides upon treatment. So if a patient with asymptomatic hypertension complains most of a severe headache and/or dizziness, regardless of the underlying hypertension, one leads treatment with herbs that will relieve headache or dizziness such as feverfew, willow, nervines, etc. . This may only be the 'branch' treatment while treating the underlying fluid retention of the urinary tract, liver, digestion, etc would form the root. In this case hypertension becomes a sign, clinically obtained, that would indicate an underlying imbalance that may require the use of dandelion, berberis or silymarin for an underlying root imbalance, parsley root, dandelion root and leaf and/or watermelon seed for an underlying kidney imbalance and so forth.

In such cases, one may not have any lasting results from simply treating the 'branch symptom of 'headache' for instance and in the case of hypertension the underlying root cause must also be treated. Nevertheless, the formula for treatment should be organized so that the branch symptom receives at least 60% of the formula while the underlying root cause (s) would receive less, up to 40% of the formula for instance.

Thus herbs used to treat hypertension in Western herbalism may be selected based on their root and branch effects.

Usually we find that all hypertensive patients have heat but to develop a corresponding therapy one would need to determine whether it is Excess or Deficient, Acute (reactive to environment or stimuli) or Internal (chronic and persistent). As best as possible one should consider whether there is Yin (parasympathetic) or Yang (sympathetic) vacuity.

The formula Tian Ma Gou Teng Yin (Decoction of Gastrodia and Uncaria), Ban Xia Bai Zhu Tian Ma Tang (Decoction of Pinellia, white atractylodes and gastrodia), Longdan Xiegan Tang (gentian Combination), Liu wei dihuang wan (Rehmannia Six Pill) are the ones most used in TCM.

Differentiating the use of each of these formulas is as follows :

1. Subduing endogenous Liver Wind: Tian Ma Gou Teng Yin (Decoction of Gastrodia and Uncaria)  
headache, vertigo, insomnia, hemiplegia, coma, deviation of the mouth and eyes, paralysis, convulsions, trembling movement of the tongue.

Tongue: red  
Pulse: wiry/taut and rapid

2. Resolving phlegm, dampness with internal liver wind and to strengthen the Spleen and dispel Dampness. – Ban Xia Bai Zhu Tian Ma Tang (Decoction of Pinellia, White Atractylodes and Gastrodia)

Symptoms: vertigo, headache, profuse sputum feeling of stuffy chest fullness.

Tongue: white with greasy coating  
Pulse: soft and slippery

3. Damp Heat and Fire in the Liver and Gallbladder organ systems – Long Dan Xie Gan Tang (Gentiana Combination)

Headache, chest pain, bitter taste in the mouth, blood shot eyes, swollen ear or dear, dry throat, darker yellow urine, constipation,

Tongue: red with yellow coating  
Pulse: wiry/tight and rapid

This formula treats many types of inflammatory conditions including hepatitis, conjunctivitis, boils, cystitis, herpes zoster, pelvic inflammatory inflammation, scrotal eczema, swollen testis. Urethritis, etc.

4. Yin deficiency of the Liver and Kidney – Rehmannia Six Pills (Liu Wei Dihuang)

symptoms such as dizziness, tinnitus, sore throat, tidal fever, nocturnal emission, night perspiration, heat sensation in the palms and soles, toothache, dry mouth, thirst.

Tongue: red with thin coating, dry  
Pulse: thread and rapid

5. Static Blood obstructing the vessels

Main Symptoms: enduring, non-healing dizziness and headache, fixed, immovable pain, visible varicosities, spider nevi, cherry hemangiomas, numerous age spots, dark purplish tongue, possible static macules or spots, bowstring, choppy pulse. Formula: Xue fu zhu Yu tang, or Stasis in the Mansion of the Blood

6. . Qi and Yin dual vacuity

Main Symptoms: dizziness provoked by exertion, bilateral dry, rough eyes, dry throat, tidal heat, fatigue, lack of strength, sweating and/or shortness of breath on the slightest exertion, fat, pale tongue, scalloped, scanty or no fur, fine, forceless, possibly rapid pulse. Formula: Shen Zhe Zhen Qi Tang

7. Yin and Yang Dual Vacuity

Main Symptoms: Dizziness, tinnitus, deafness, vexatious heat in the five hearts, possible fear of cold, puffy swelling in the lower limbs, especially



around the ankles, impotence, low libido, enuresis, pale, tender tongue possibly with a red tip and or swollen, red papillae on the tongue root and a deep, slow and forceless, floating, surging or fine, rapid pulse depending on the predominance of yin and yang vacuities. Shen Qi tang, Goldenbook Teapills

#### 8. Chong and Ren Dysregulation

Main Symptoms: women's perimenopausal hypertension, dizziness, headache, heart vexation, easy anger, hot flashes, night sweats, dry mouth and throat, scanty sleep, low back and knee soreness, pale red tongue with scanty fur and a bowstring fine pulse. Er Xian Tang, Two Immortals teapills

### **Herbal Plaster Over the Navel**

In Chinese medicine hypertension belongs to the categories of "dizziness" and "headache." Following is a novel external herbal paste comprised of two herbs: Rhizoma ligustici chuanxiong and Evodia fruit (Wu Zhu Yu). Grind the herbs to a powder and add enough vinegar to form a past. This is inserted in and on the navel and covered with a 4 cm square plaster. Change the medicated compress after three days. One course is equal to 10 reapplications. Be careful to keep the area dry and do not allow water to get near the plaster.

Result: 118 cases were treated with this method: 77.5% had improved blood pressure after one month of treatment, with a total efficacy rate of 82.3%.

### **Case**

A 45 year-old man of average build presented with dizziness and headache of approximately three years duration with an average blood pressure reading of 160/100 mmHg). His ECG was normal and he was diagnosed with type 1 hypertension. When he came for treatment he had stopped all medications for hypertension. After five days following the above protocol his blood pressure was within normal limits and his dizziness and headache had disappeared.

### **Discussion**

The navel is an acupuncture point which is forbidden to needling called REN 8 or Conception Vessel 8. It is one of the most important points on the body because herbs applied on it can absorb directly into the bloodstream through the umbilicus, in this case having a particular effect of reducing hypertension.

**From Single Point Acupuncture and Moxibustion for 100 Diseases** by Dr. Decheng Chen, Oh.D, L.Ac published by Trafford Press

### **Bleeding**

The last method I would briefly mention is mostly used in the practice of acupuncture. While studies have found that acupuncture alone does not reduce blood pressure, the technique of bleeding specific points associated with its practice is symptomatically very effective.

I mention this because at least one method, using a quick prick a small diabetic bleeding needle is safe and easy to perform at least on close family members. Swab the outer tip of both ears with rubbing alcohol. Have cotton balls or clean tissue paper available. Fold the ear over and quickly and prick the apex of the ear. Follow by squeezing and rubbing several drops of blood, up to a teaspoon, though usually only a few drops is enough. Repeat using the opposite ear. Be sure to use caution if the subject is taking blood thinners.

See You Tube for online demonstration:  
<https://www.youtube.com/watch?v=pAvT8oosIZI>

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<sup>2</sup> Berlin I. Epidemiology of Hypertension. Medicine International 1993;24: 351-355

<sup>3</sup> Appel L.J. Moore TJ, Obarzanek E. et al A clinical trial of the effects of dietary patterns n blood pressure. New England Journal of Medicine 1997,; 336 (16): 1117-1124

<sup>4</sup> Nahas, R.; Balla, A. (2011). "[Complementary and alternative medicine for prevention and treatment of the common cold](#)". *Canadian family physician Medecin de famille canadien* 57 (1): 31–36. [PMC 3024156](#). [PMID 21322286](#). [edit](#)

<sup>5</sup> Susalit E, Agus N, Effendi I, et al. Olive (*Olea europaea*) leaf extract effective in patients with stage-1 hypertension: comparison with Captopril. *Phytomedicine*. 2011 Feb 15;18(4):251-258.

<sup>6</sup> <http://clinicaltrials.gov/ct2/show/NCT00626132>

<sup>7</sup> Zhong Yi Zao (Chinese Herbology); 1998; 797-799