

# Ayurveda

## and Hypertension



*Recent analyses have shown that as of the year 2000, there were 972 million people living with hypertension worldwide, and it is estimated that this number will escalate to more than 1.56 billion by the year 2025. This is more than a quarter of the world's adult population and is therefore considered to be a world-wide epidemic.*

High blood pressure is a dangerous condition, but is not always taken as seriously by the patient. In fact, he often wonders whether his high levels were not incidental, or perhaps he ate too much salt the day before, or is it not grossly overestimated, because after all he has no symptoms! These are all very valid assumptions. That's why we wanted to list all the causes and symptoms of hypertension in this article and provide crucial background information to give a clear context of what this condition is all about. Because the other side of the coin is that hypertension symptoms largely remain hidden and are often very difficult to recognize. With this article we will first and foremost pay attention to prevention and detection of hypertension, together with, of course, the Ayurvedic approach – along with home remedies and health tips.

### **HYPERTENSION: "THE SILENT KILLER"**

High blood pressure or hypertension currently affects already more than one billion people worldwide, as we have said in our introduction. However, 80 percent of worldwide high blood pressure-related deaths occurred in middle- and low-income nations in eastern Europe and Asia, including China and India. More than one-third of all deaths in lower-income nations in Europe and central Asia were related to high blood pressure. In fact, middle-income countries and low-income regions have a five times greater burden of disease than high-income regions, with access to less than 10 percent of the global treatment resource. Scientists attribute this phenomenon to the fact that rich countries spend lots of money on campaigns that promote a healthy lifestyle, which poor countries are not able to do. Moreover, developing countries consider infectious diseases as their biggest problem and they have far less interest in treating and preventing chronic diseases.

High blood pressure is a life threatening condition, most especially if it is unmanaged and untreated. What makes it a dangerous condition is the fact that it predisposes a person to a number of cardiovascular related disorders, as well as stroke and kidney failure. A person with high blood pressure will often feel no symptoms at all – and that is why it is called the "silent killer". Despite the lack of early symptoms, hypertension can cause damage to the body every day it is too high. But the good news is that high blood pressure is controllable and is often even preventable. Moreover, the key to avoiding high blood pressure is understanding the disease better. The World Hypertension League (WHL), a federation of leagues, societies and other national bodies, aims at exchanging as much information as possible and offers internationally applicable programs in order to get hypertension under control. According to the WHL "the onset of hypertension can be prevented by a healthier diet, low in salt and fat and rich in fibers, and by consuming fresh vegetables and fruits." It would be a misconception to think that hypertension is purely a "Western disease", since it is an epidemic in many parts of the world. But it is for good reason that the WHL already established a link between unhealthy eating habits and hypertension. Although poor eating habits and lack of education about healthy eating habits are common in the Western world, unfortunately they travel around the globe as well: overweight and obesity, caused by lack of exercise, sedentary lifestyles and poor eating habits are no longer just a concern for developed countries, but are becoming an increasing problem in many developing countries as well.

### **WHAT IS BLOOD PRESSURE?**

The heart beats approximately 60 to 80 times per minute (at rest). Since blood is carried from the heart to all of our body's tissue and organs in vessels called arteries, blood pressure

is the force of the blood pushing against the walls of those arteries. Each time the heart beats, it pumps out blood into the arteries. The higher the pressure, the more harmful it is for the walls of the arteries. Our blood pressure is at its greatest when the heart contracts and is pumping the blood. This is called systolic pressure. When the heart is at rest, in between beats, our blood pressure falls. This is the diastolic pressure. Every blood pressure reading consists of these two numbers or levels. They are shown as one number on top of the other and measured in mmHg, which means millimetres of mercury, for instance 120/80 mm Hg.

*Normal ranges for blood pressure are:*

- Systolic between 90 and 140 mm Hg
- Diastolic between 50 and 90 mm Hg

Our blood pressure normally varies throughout the day. It rises, for instance, with activity and falls with rest. If readings are taken too soon after a meal or exercise, they may be lower than at other times, while if they are taken after smoking a cigarette or drinking coffee, they may be increased. Because of such fluctuations, it's generally not considered high blood pressure unless there have been three elevated readings in a row, each taken at different times under similar conditions.

### WHAT IS HIGH BLOOD PRESSURE?

Our blood pressure has a daily pattern. It is normally lower at night while we're sleeping and when we first wake up. As soon as we get out of bed, our blood pressure starts to rise. Our blood pressure continues to rise during the day, usually peaking in the middle of the afternoon. Then in the late afternoon and evening, our blood pressure begins to drop again. Having an abnormal blood pressure pattern, such as high blood pressure in the morning, can mean that there is a health problem.

*A person's blood pressure is considered high when the readings are:*

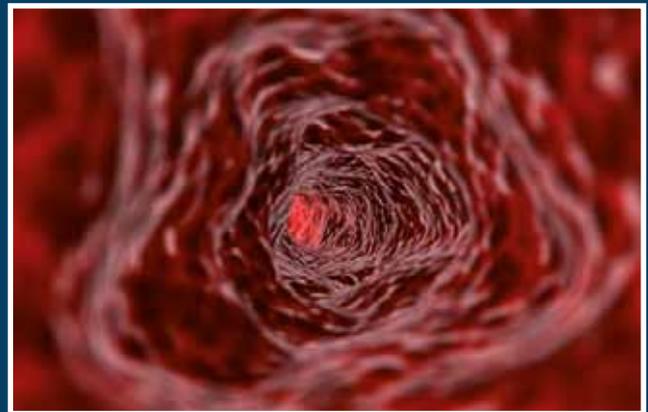
- greater than 140 mm Hg systolic (the top number in the reading) or
- greater than 90 mm Hg diastolic (the bottom number).

Blood pressure is different for different age groups. For children, the normal is 50/80 (diastolic/systolic), for adults 70/120 and for old people 90/140. Blood pressure increases with age. Persons with hypertension can also use simple automated devices to measure their own blood pressure at home. The results can be accurate and reliable, and because multiple readings allow a mean value to be calculated, a better estimate of the underlying blood pressure level is obtained.

### CAUSES OF HIGH BLOOD PRESSURE

In 90-95 percent of cases, the cause of high blood pressure is unknown. This condition is called primary or essential hypertension and is most common in Western countries.

While heredity and lifestyle factors are a predisposing factor, the exact mechanism is unclear. Secondary hypertension is caused by a defined underlying medical disease or other factor (such as medications) that elevates blood pressure. Many different medical diseases are associated with secondary hypertension. These conditions can also make high blood pressure more difficult to control. They include diabetes, kidney disease and endocrine disorders. Specific medical drugs are also known to be secondary hypertension causes. These would include some birth control pills with estrogen, migraine medications, and some weight loss drugs and cold medications. Sleep apnea is also a common known cause of secondary high blood pressure. Another cause of inessential hypertension is pregnancy. Known medically as gestational hypertension it occurs anytime after the 20th week of pregnancy and normally dissipates as soon as delivery.



*Risk factors for secondary hypertension include:*

- Overweight and obesity. Weight gain is known to increase demand on a person's heart. This will also put increased pressure on artery walls leading to high blood pressure.
- Lifestyle factors such as smoking and excessive salt (sodium) intake. Potassium and sodium are needed in balance. Eating too much salt upsets this balance and also contributes to high blood pressure. Interestingly, reducing sodium does not lower blood pressure unless potassium is also increased. Most Western diets are very high in salt and low in potassium. This makes the muscles that line the major blood vessels contract, causing the blood pressure to rise.
- Alcohol abuse and stress are major contributors to high blood pressure.
- Caffeine causes a temporary increase in blood pressure, which is considered harmless in people with normal blood pressure. However, a high intake of coffee may be harmful in people with high blood pressure. Coffee also increases the body's elimination of calcium, which may negatively affect blood pressure.
- Lack of physical inactivity. People who are physically inactive also increase their likelihood of developing high blood pressure.

## **SYMPTOMS OF HIGH BLOOD PRESSURE**

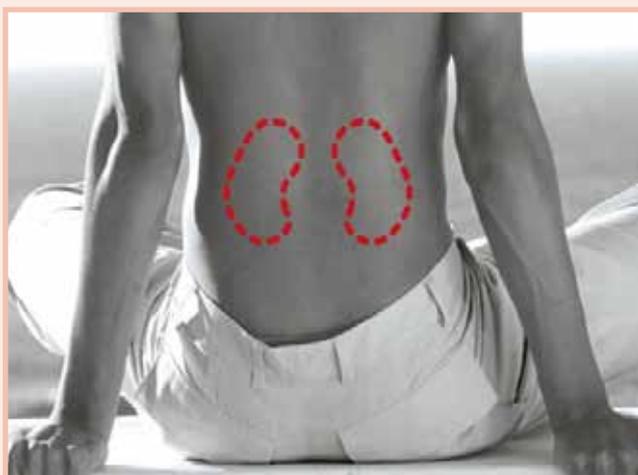
In general, high blood pressure does not directly cause symptoms. When blood pressure is very high, it can cause symptoms such as headaches, dizziness, fatigue and ringing in the ears. These rare cases of hypertension symptoms may be a symptom of malignant hypertension, which is a serious condition. Though high blood pressure is never particularly safe, malignant hypertension is the condition in which blood pressure is dangerously high. It affects about one percent of people who suffer from hypertension.

### ***What are the consequences?***

The incidence of high blood pressure increases as people age and blood vessels become less elastic. Recognition and early treatment of hypertension is essential to prevent serious health consequences. Ignoring hypertension can damage nearly every organ in the human body, while causing few noticeable symptoms.

### ***Heart problems caused by high blood pressure.***

Damage to blood vessels can cause atherosclerosis, a buildup of plaque that narrows blood vessels. Blood vessels can also weaken in certain areas and bulge outward, a condition called aneurysm. (Nearly all abdominal aneurysms occur in people with hypertension). Narrowed blood vessels in the brain can slow blood flow and result in cognitive problems. Blocked vessels leading to the brain can cause stroke. Coronary artery disease from untreated hypertension can cause myocardial infarction, or heart attack. Congestive heart failure may also accompany hypertension.



### ***Kidney disease and hypertension symptoms***

Untreated hypertension damages the blood vessels that lead to the kidneys, and can cause kidney failure. Damaged blood vessels will not remove waste products and excess fluid from the body effectively, so they build up in the body. Excess fluid further raises blood pressure, which leads to further kidney damage in a vicious cycle.

### ***Eye disease***

In addition to causing heart and kidney problems, untreated high blood pressure can also affect our eyesight and cause eye disease. Hypertension can cause damage to the blood vessels in the retina, the area at the back of the eye where images focus. Symptoms include headaches and vision problems.

## **REGULAR TREATMENT OF HYPERTENSION**

Lifestyle modification is the first and the foundational treatment approach for hypertension. When we look at the aforementioned risk factors, the following lifestyle recommendations will come as no surprise:

- Lose weight in case of overweight.
- Increase physical activity.
- Reduce sodium intake.
- Maintain an adequate intake of dietary potassium and calcium. The best sources of potassium are fresh fruits and vegetables, especially bananas, prunes, grapefruits, tomatoes, and potatoes.
- Reduce intake of dietary saturated fat and cholesterol.
- Limit alcohol consumption.
- Stop smoking.
- Manage stress.

People with high blood pressure seem to benefit especially from cutting back on salt in their diet. Here are some tips on how to reduce salt intake in the diet:

- Cut down on salt used at the table.
- Taste food before adding salt.
- Remove the salt shaker from the table.
- Cut down on salt used when cooking.
- Reduce the amount of salt added to half the amount suggested.
- Replace salt with alternative flavorings like pepper, garlic, lemon juice, herbs, and spices.
- Eat sensibly at restaurants. A lot of “chain” restaurants have their nutritional values on their website. If you eat at fast-food restaurants, ask for a nutritional analysis of the foods, so you can check the sodium content of different items. In Chinese restaurants, ask for food without monosodium glutamate (MSG). It is advised not to eat out in case of hypertension, unless you are certain you are served fresh foods or salads, with no addition of extra salt.
- Check labels on food purchased at the grocery store. Use labels to compare the amount of sodium in canned, frozen, and packaged foods. Look for foods or seasonings that are labeled “low sodium” or “sodium free”.
- Foods that are high in sodium are cereals, biscuits, soups and sauces (soy sauce, spaghetti sauce etc), onion salt, garlic salt, bouillon cubes, processed meats (processed bacon, sausage and ham), canned soups, canned vegetables, most

fast foods, potato chips, frozen meals and cured meats. In general, processed, packaged, canned and frozen foods tend to have higher amounts of sodium.

- Whenever possible, start with fresh food that you can season yourself.

Changing our lifestyle can go a long way toward controlling high blood pressure. But sometimes lifestyle changes aren't enough. In addition to diet and exercise, a doctor may recommend medication to lower blood pressure. There are several medicines that can lower blood pressure. In less than half of the cases, it is sufficient to be on one medication in order to reduce high blood pressure to the target level. However, it is more common to need two or more different medications to achieve this purpose. In some cases, despite treatment, the target level is not reached. Despite this, the patient will benefit from any reduction in blood pressure. The 5 main categories of medications to treat high blood pressure are: diuretics, Beta blockers, Angiotensin II receptor blockers, Angiotensin-converting enzyme (ACE) inhibitors and Calcium channel blockers.

Resistant hypertension: when blood pressure is difficult to control. If a person's blood pressure remains stubbornly high despite taking at least three different types of high blood pressure drugs, one of which should be a diuretic, he may have resistant hypertension. This means that his hypertension is resistant to treatment. People who have controlled high blood pressure but are taking four different types of medications at the same time, are also considered to have resistant hypertension. Having resistant hypertension doesn't mean that the blood pressure will never get lower. In fact, if patient and doctor can identify what's behind the persistently high blood pressure, there's a good chance they will find a more effective treatment and reach their target level after all. But also medications and doses need to be re-evaluated to ensure the appropriate medications are taken. Some medications, foods or supplements can worsen high blood pressure or prevent high blood pressure medications from working effectively.

#### **ADDITIONAL PROBLEMS WITH TREATMENT OF HYPERTENSION**

As mentioned before, the scariest thing about hypertension is, that it might kill before its specific signs are recognized. While its symptoms may include headache, blurry vision, and dizziness, these are ambiguous enough to be discounted as blood pressure-related. That's why hypertension has been labeled "the silent killer." What's more, it can strike just about anyone. And here two other problems also come into play: first of all doctors are often lax about treating mild hypertension, especially in elderly people who have many other medical problems. As a result, even people who go to the doctor regularly often do not know that they are hypertensive and are not be-

ing treated. And the other problem is that patients with hypertension often withdraw from treatment, mainly because of lack of involvement in the treatment plan. A significant cause for this is that high blood pressure is in the first place not a disease but a risk factor. It "merely" contributes to the development of coronary heart disease, stroke, heart failure and kidney disease. This shows us some major gaps in hypertension treatment. In reality, 40% of people with hypertension are untreated, and a majority of patients do not have their blood pressure controlled. This lack of control is associated on the one side with the reluctance to intensify treatments by health care specialists, and poor patient adherence with drug therapy or other treatment on the other side. Drug side-effects are an important cause for non-compliance, but recent studies have shown that hypertensive patients will adhere more to therapy if they have a pre-knowledge of the possible side-effects. Education of both the patient and physician have proven to improve blood pressure control versus education of the physician alone.

#### **HIGH BLOOD PRESSURE IN PREGNANCY**

Although many pregnant women with high blood pressure have healthy babies without serious problems, high blood pressure can be dangerous for both the mother and the fetus, and should therefore be treated with caution. At the beginning of the pregnancy, a woman's blood pressure will normally fall. However, some women develop high blood pressure while they are pregnant (often called gestational hypertension). Hypertension can often be prevented in low-risk



women through physical activity before and during pregnancy and early and regular prenatal care. Risk factors for developing gestational hypertension, include: having a family history of hypertension, being overweight or obese, being older than 35, experiencing multiple gestation (i.e. twins, triplets, etc.), or having diabetes or pre-existing kidney disease.



Mild to moderate hypertension usually does not have any negative effects on the woman or her baby. Severe cases of high blood pressure can damage blood vessel walls and affect the flow of blood between the mother and her baby. It may also harm the mother's kidneys and other organs, and cause low birth weight and early delivery. In the most serious cases, the mother develops pre-eclampsia ("toxemia of pregnancy"), which can threaten the lives of both the mother and the fetus.

#### ***What is pre-eclampsia?***

Up to 1 in 10 pregnant women develop raised blood pressure accompanied by the appearance of protein in the urine (proteinuria) and retention of excessive amounts of fluid in the body (edema). It is not usually seen before the sixth month of pregnancy and most women develop the condition at the end of their pregnancy. However, only 1 out of 100 women will have the severe form of the condition. Pre-eclampsia can also occur up to a week following delivery of the baby. Pre-eclampsia can, in severe cases, influence the placental function and diminish the flow of nourishment and oxygen to the foetus, which will slow its growth. Prevention is, again, better than cure. Monitoring of the woman's blood pressure and urine is essential. If hypertension is developing, it is essential to measure the blood pressure and test urine for protein regularly.

#### ***Treatment of hypertension during pregnancy***

Treatment options for chronic hypertension or gestational hypertension, include hypertensive medications. Some practitioners recommend strategies that are dietary, while others involve exercise and rest. Recently it has been shown that

aspirin can be helpful for a select high risk group. Women with worsening hypertension during pregnancy often are placed on bed rest or restricted activity, although no scientific evidence demonstrates that this is beneficial in prolonging gestation or reducing maternal or fetal mortality. When diagnosed with pre-eclampsia, the only cure is delivering the baby. Any delay in delivery should be due to uncertainty about the diagnosis or immaturity of the fetus. When pre-eclampsia develops remote from term (i.e. < 34-36 weeks' gestation), attempts are often made to prolong the pregnancy to allow for further fetal growth and maturation. Hypertension due to pre-eclampsia may remain present or even worsen in the postpartum period. For this reason, after delivery, women with pre-eclampsia require ongoing close blood pressure monitoring.

#### **HIGH BLOOD PRESSURE AND OVERWEIGHT**

Already many years ago research studies have demonstrated that overweight individuals have a three-fold increased risk for the development of hypertension compared to normal-weight individuals. It turns out that a body mass index (BMI) of 27 or more and significant fat deposits around the abdomen are directly linked to high blood pressure. The good news is that even a modest weight loss will have a positive effect on our health and wellbeing. While there is no doubt that losing large amounts of weight offers a range of health benefits, even modest weight loss already has a significant impact on the blood pressure. A modest weight reduction of 5-10 % of initial body weight not only increases longevity, it also improves blood glucose levels, lung function, mood and sleep quality, and reduces blood pressure and cholesterol levels.

#### **CHRONIC STRESS**

In 2009, scientists and researchers officially determined that chronic physical or emotional stress can cause hypertension. The blood pressure can spike temporarily during stressful situations, but if the stressful response of fight or flight becomes a chronic reaction from within the body, it may also cause long-term high blood pressure if paired with other factors, such as overeating, poor nutrition and poor sleep habits. Fight or flight is when our body produces stress hormones in preparation for fighting stress or running away from it. This stress response is useful for people when facing immediate threats. However, if the stress response is not properly managed, it can cause internal damage. Although these stress hormones were originally meant to help give warning of imminent danger, they tend to temporarily increase blood pressure by causing our heart to beat faster and our blood vessels to narrow. Today's stress is usually caused by perceived threats, and not physical ones. This makes no difference to the body and it continues to pump out adrenaline and cortisol. Not only that, but we do not respond to the perceived threat by fighting or

running. This means the hormones are not properly disposed of, but linger in the body; keeping pressure elevated until they wear off naturally. Although we all experience change and demands regularly, the way that we interpret these internal and external changes directly affects the degree to which we feel stress. As a result, not all individuals interpret the same events as stressful; what may seem stressful to you may not be the same for your best friend, and vice versa. We all feel the pressure of our environment during times of transition (i.e., at the time of high school graduation) and in preparation for significant life events (i.e., in anticipation of a job interview). When we are exposed to long periods of stress, our body gives warning signs that something is wrong. These physical, cognitive, emotional, and behavioral signs of stress should not be ignored. They tell us that we need to slow down. If the stress is continuous and we don't give our body a break, we are likely to develop health problems, or worsen an existing illness.



*There are 3 types of stress:*

1. Physical stress; e.g. falls or accidents, causing stress on the nervous system.
2. Emotional/mental stress; includes processing emotions (such as loss, grief) and mental pressure (also mental disorders: anxiety, depression, loneliness etc).
3. Chemical stress; includes pollutants in our environment.

Each time stress overload occurs, the tension locks into the body, reducing its efficiency. Therefore it is less able to deal with any additional stress it may face, and a vicious cycle develops. Each time it fails to adapt, more body stress is stored and the body enters a process of degeneration with increased vulnerability to illness. Long-term effects of stress include hypertension, depression, skin problems, allergies, headaches, back pain, neck pain, insomnia, digestive disorders, obesity and stroke. It will have a negative effect on the immune system and the way the body functions – therefore stressed people more

often get sick. For obvious reasons, regular medical strategies to prevent hypertension aim largely at developing healthy eating habits, maintaining healthy body weight, increasing physical activities and quitting smoking and excessive alcohol drinking.

## **AYURVEDA AND HYPERTENSION**

The Ayurvedic classics describe the heart as the seat of consciousness. Therefore elevated blood pressure indicates a crisis of consciousness, feeling and identity.

### *The three doshas*

Hypertension may manifest itself in any of the three humors (primary life forces) in the body. All matter is composed of the five elements which are the building blocks of existence. All living matter consists of the three doshas, or Tridosha, the three forces which govern all biological processes. The doshas come from the five elements and can be named the three primary energetic principles that regulate every psychological and physiological process in the living organism. The doshas are: Vata – that which moves things. Pitta – that which digests things. Kapha – that which holds things together. Together the three doshas govern all the activities of life:

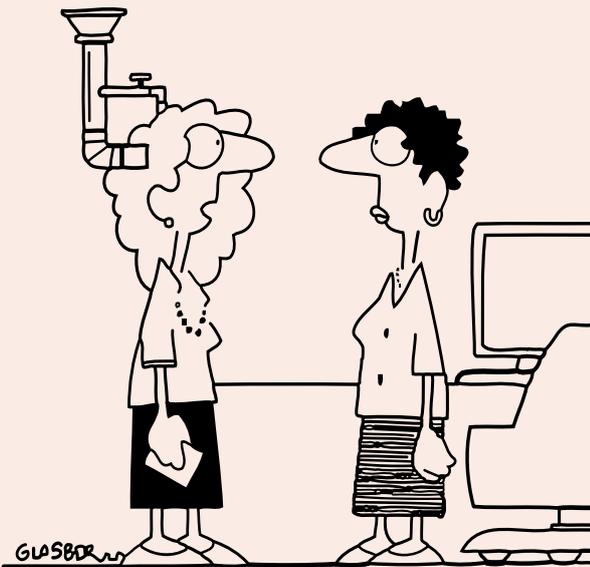
- Vata: catabolism
- Pitta: metabolism
- Kapha: anabolism

The excess of any of these manifests in different ways in the human body. The doshas are displayed individually. The ratios of the doshas in someone's constitution and the qualities expressed by it, are as unique to every individual as finger prints. The different levels of doshas within the individual reflect characteristic tendencies and susceptibility to illness.

- Vata is motion that activates the physical system and permits the body to breathe and circulate blood. The seats of Vata are the large intestine, pelvic cavity, bones, skin, ears, and thighs.
- Pitta processes food, air, and water and is responsible for charging the hundreds of enzymatic activities throughout the body. The seats of Pitta are the small intestine, stomach, sweat glands, blood, skin, and eyes.
- Kapha, the structure of bones, muscle, and fat that holds the body together, offers nourishment and protection. As an example to illustrate this, the chest, the lungs, and the spinal fluid that surrounds the spinal cord are the seats of Kapha in the body.

Vata is regarded as the main dosha among all the three, as it controls and governs all the functions performed by the other two doshas. This is due to its unique property of mobility. Mobility is the most important factor by which any of the doshas, in imbalanced state, leaves its respective place to migrate to other

places and cause disturbance in body. According to Ayurveda, most disorders usually start with Vata. When the doshas are in balance, a person enjoys good health and well-being. Imbalance of the doshas, if not corrected, leads eventually to disease. Traditionally, in the Ayurvedic classical texts, hypertension was not described as a disease. Within Ayurveda, diseases are not named unless the cause is known. Hypertension has no specific cause from an Ayurvedic perspective, but doesn't have any symptoms either. It is a symptom in itself. In most cases, hypertension produces no symptoms until dangerous complications occur. Nowadays, Ayurveda sees hypertension as a dysfunction of all the doshas – Vata, Pitta and Kapha.



**"The key to stress management is knowing how to vent your frustration."**

- *Vata-type hypertension*; is due to the typical Vata-provoking conditions: worry, nervousness, anxiety, strain, overwork or insomnia.
- *Pitta-type hypertension*; is mainly due to strong emotions, such as anger, hatred, jealousy and shock.
- *Kapha-type hypertension*; is often caused by malignant factors, such as malfunctioning of the vital organs. It is also often due to atherosclerosis (hardening of the arteries), which is actually caused by the buildup of plaque inside the body's blood vessels, especially the arteries. Kapha hypertension is caused by Kapha-provoking habits, including regular and/or excessive intake of cold, heavy, oily or fatty foods with a sedentary or lethargic lifestyle, and often excess body weight.

However, Ayurveda sees the vitiation of Vata and Pitta doshas as the main cause for hypertension. Therefore Ayurvedic treatment of hypertension will mainly involve balancing of these two doshas. Along with herbal treatment, Ayurveda stresses on a healthy balanced diet, healthy lifestyle, yoga and meditation for the treatment of high blood pressure.

## VATA HYPERTENSION

From an Ayurvedic point of view, hypertension may also be classified according to the main dosha involved and its site of origin. The main site of Vata is the large intestine. When Vata accumulates, it will accumulate first in the large intestine and from there will be absorbed into the blood. This will increase the qualities of Vata and lead to constriction of the blood vessel walls. Constriction of the blood vessels may also be a result of Vata increasing, due to psychological stress associated with fear, anxiety and insecurity. Vata-caused hypertension will be directly related to an excess amount of lifestyle and nervous system stress. The high blood pressure will come and go for many years, until it begins to aggravate Pitta and Kapha, respectively. Eventually it will become more and more constant and increasingly more difficult to treat.

### What are the typical symptoms?

- Blood pressure may rise and fall suddenly with nervous tension.
- Irregular or erratic pulse, both in rhythm and strength.
- Feeling cold, overworked, gas, bloating or constipation and insomnia.
- Vata hypertension will mainly follow (periods of) worry, strain, anxiety and nervousness. It is therefore important to treat the psychological conditions as well.

### Ayurvedic treatment of Vata hypertension

First of all, Vata hypertension treatment will consist of tonification therapy. Ayurvedic methods for treating disease are classified into two groups:

- *Langhana*: literally means "to lighten" and refers to reduction therapies. Langhana always refers to the Shamana, "palliative" and Shodhana "purification" procedures in Ayurveda. Detoxification and cleansing naturally fall into these latter categories.
- *Brimhana*: literally means "to make heavy" and refers to tonification therapies. Brimhana refers to the Rasayana (anti-aging) and Vajikarana (aphrodisiac) therapies, which require building and rejuvenation.

Reduction (Langhana) processes unload the system, in order for excesses and wastes to be removed. They are indicated in the acute stage of disease and can incorporate for instance "Swedana" (sweat therapy). Or herbal therapy, using bitter herbs to treat fevers or to remove deep-seated toxins and metabolic wastes – as part of purification procedures (Panchakarma). Tonification (Brimhana) therapies, nourish deficiencies in the body and are for instance indicated for underweight, debility or tissue weakness. They aim at building up insufficient energy or deficiencies, to prevent disease from occurring. Tonification is indicated in chronic disease, for the debilitated or malnourished, or after the abovementioned

Langhana (reduction) therapies have been applied. Tonification therapies are generally nourishing, caring, softening and soothing. For Vata-persons, tonification (Brimhana) is generally most beneficial. This is because the main attribute of Vata is lightness, and Vata persons are prone to deficiencies in the form of underweight, dryness or debility. For instance a nutritive diet, mild enemas and tonifying lifestyle are recommended to balance Vata. But the tonification methods are in themselves strong: using powerful tonic herbs, such as ginseng.

Returning however to the Vata hypertension treatment: first of all, therapies should be tonifying. Secondly, it is important to support the nervous system in a Vata hypertension treatment. The following Ayurvedic herbs are effective for this purpose:

- *Ashwagandha*: is perhaps the most famous Ayurvedic immune booster herb that is used in many tonics and formulas. It revitalizes and maintains proper nourishment of the tissues, and has strong anti-stress, anti-anxiety, anti-oxidant, immunity enhancing and rejuvenating properties.
- *Brahmi*: is considered the primary Ayurvedic nerve and cardiac tonic. It pacifies high Vata or Pitta, and has been traditionally used for nervous conditions, epilepsy, skin conditions and premature aging.

Especially for long-term treatment, herbal remedies with Ashwagandha are recommended. A good formula for Vata hypertension is Ashwagandha, Valerian and Gotu Kola – taken in equal parts (1-3 grams of each powdered herb, with warm water or with ghee). Other effective tonics include:

- *Garlic (anti-septic and anti-oxidant)*: calms and strengthens the nervous system and cleans the blood. Use not only as a spice, but eat an entire clove (crushed, with honey) 1-2 times a week.
- *Nutmeg*: in warm milk.
- *Saraswat powder*: in warm milk.
- The Ayurvedic herbal complex Cerewell\*: provides more relaxation during the day, and provides a good sleep. Cerewell calms and is a natural tranquilizer, helps with mental pressure, stress, work stress and strengthens the nerves. Beneficial for all three body-constitutions (Vata, Pitta, Kapha).



Besides the abovementioned remedies, it is advised to follow a Vata-pacifying diet and to avoid light, dry and artificial foods. Favour a lifestyle consisting of Warmth, Regularity and Grounding, also in diet! Relaxation, mild exercise such as walking (especially in nature), meditation and yoga are recommended as well – to calm the emotions and nerves. Shirodhara therapy is also strongly recommended. The continuous and rhythmic pouring of warm oil on the forehead soothes the nerves and reduces mental stress.

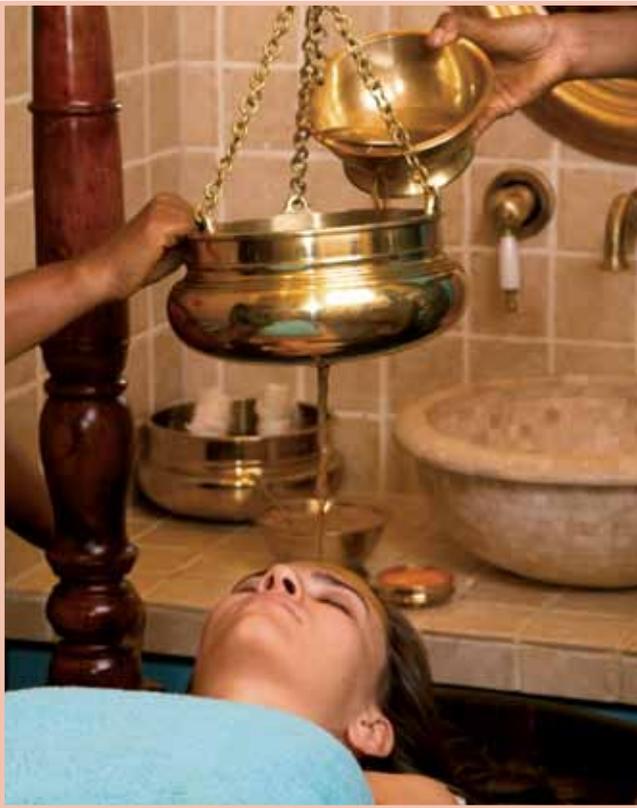


### PITTA HYPERTENSION

It is often believed that hypertension is a typical Pitta-condition, because of Pitta's fiery nature – however, all three doshas are involved in hypertension. It occurs mainly in persons with a Pitta-type constitution; they can be subject to temper tantrums, impatience, mood swings and anger, and are competitive and often even aggressive (which continuously drives them). A Vata type hypertension can become a Pitta type, as the body tries to shunt the nervous system stress or pressure to the circulatory system. The small intestine is Pitta's main location. If Pitta accumulates here it is absorbed into the circulatory system increasing the viscous, fatty oily qualities. Due to the increased viscosity, the blood exerts pressure on the blood vessels resulting in increased blood pressure. Pitta can also increase due to psychological stress related to anger, hate, envy and jealousy, which is also associated with Pitta hypertension.

#### What are typical Pitta hypertension signs?

- Red face and red (blood shot) eyes.
- Violent headaches (usually late in the day after stress or overheating).
- Sensitivity to light.
- Nose bleeds,
- Anger, irritability.
- Burning sensations (especially eyes and skin).
- Often Pitta hypertension is associated with liver disorders and the accumulation of internal heat.



### *Ayurvedic treatment of Pitta hypertension*

As we have described in the previous section, there are basically two treatment policies – Brimhana (nourishing, tonifying) and Langhana (reducing). Pitta persons generally fall inbetween, and usually moderate methods are therapies are applied. In general, Pitta conditions require methods that reduce Pitta's heat and inflammation (Langhana – reduction), but subsequently the affected tissues need to be rebuilt and nourished again (Brimhana – tonification). Therefore, both types of therapies are used in the treatment of Pitta high blood pressure. The aforementioned Vata treatments will work as well for Pitta-type hypertension (see above). Some cooling, bitter herbs must be added to cleanse the blood and vessels, as well as cool the circulatory system.

*The following herbs are extremely effective in lowering blood pressure:*

- *Arjuna Vishisht\**: Arjuna is an Indian tree bark that contains lots of anti-oxidants and minerals. It promotes effective cardiac performance by regulating blood pressure and cholesterol levels, and it reduces the effects of stress and nervousness on the heart.
- *Guduchi Ghan\**: Guduchi helps to maintain healthy blood sugar and blood pressure levels, balances the metabolism and immune system, and has antibacterial and anti-inflammatory properties. Guduchi also helps to purify the blood and expel the toxins which are circulating in it.
- *Manjistha*: is widely known for its blood purifying properties.
- Ashwagandha and Brahmi (see under Vata hypertension).

*Other recommended herbs include:*

- Aloe gel;
- Rhubarb (root);
- Senna;
- The Ayurvedic herbs Katuka and Shatavari.

Besides these, the herbal preparations with Brahma Rasayana, Gotu Kola and Saraswat powder are effective. Persons with Pitta body-types are also recommended to follow a Pitta-pacifying diet. Especially alcohol, spicy foods, coffee, red meat and (too much) salt should be avoided, as well as (excessive) sunbathing and too much exercise (overheating!). Also fatty foods (fried and fast food) have to be eliminated from the diet. Calm and Coolness are keys to balance Pitta. Onions, garlic, too spicy, sharp and salty foods will aggravate Pitta hypertension. The Ayurvedic therapy Shirodhara (hot oil pouring on the forehead) is warmly recommended in case of Pitta hypertension too.

### **KAPHA HYPERTENSION**

Kapha type hypertension originates in the stomach being the main site of Kapha. When Kapha dosha becomes imbalanced, it will first aggravate in the stomach – the primary seat of Kapha. Kapha's subdosha Kledaka Kapha produces in the stomach gastric mucosal secretions that are responsible for the digestion of carbohydrates, starch and glucose. The end products of this phase are tryglycerides. When Kledaka Kapha is disturbed or there is an accumulation of Kapha at this site, there is an accumulation of triglycerides and cholesterol. This accumulation of Kapha predominant qualities will then move into the circulatory system, causing an increase in the viscosity of plasma tissue. This will result in increased blood pressure on the blood vessels. Kapha high blood pressure is often the result of a sluggish digestion, causing the gastric mucosal secretions in the stomach to pile up, and the eventual deposition of fats on the inner walls of the blood vessels. But also a poor kidney function can be at the base of aggravated Kledaka Kapha. Normally, excess Kledaka Kapha is excreted via urine and perspiration, that's why people with reduced perspiration and little urine, easily increase Kapha in the body. Kapha hypertension is often associated with obesity and edema. This imbalance is usually long-standing and chronic. The dosha of Kapha can act as a storage site for all the circulatory Ama (toxins) created in the doshas of Vata and Pitta.



### Typical Kapha-symptoms of hypertension

- Overweight and obesity.
- Edema and swellings.
- Dull headache.
- The blood pressure remains continually high (no fluctuation as in Pitta hypertension.)
- Tiredness or even lethargy.
- High cholesterol.



### Ayurvedic treatment of Kapha-hypertension

For Kapha-disorders usually Reduction (Langhana: eliminating) therapies are advised. Practically, this includes also a reducing lifestyle and diet. Reduction methods for Kapha-disorders will be strong, like fasting. But here the rule again applies: reduce first, and tonify afterwards. This means that after reducing procedures, mild tonification is also applied for Kaphas (like mild herbal remedies). Reduction therapies are not only harder than tonification methods, they can also be really difficult, because they include discipline and giving things up (that we may be attached to). It stimulates us to change and give up unhealthy habits, which can be extremely confronting. Kapha-type persons, when imbalanced, will accumulate excesses in the form of excess weight, water or mucus. An extensive anti-Kapha treatment will always be twofold: on the one hand accumulated toxins (Ama) will have to be removed (reduction), usually by increasing digestive forces. On the other hand, before to start with Purification procedures (removal of excess doshas), it is necessary to calm the doshas (tonification). Treatment of Kapha-hypertension is therefore primarily “reducing”, aiming at eliminating all the underlying causes. The herbs for Vata and

Pitta can be used as needed in this case as well, but some pungent and astringent herbs are essential to detoxify accumulated Ama, such as:

- Garlic
- Cayenne
- Pippali (Piper longum)
- and Trikatu: “the three pungents” – a combination of Piper longum (long pepper), Piper nigrum (black pepper), and Zingiber officinalis (ginger).

And besides these, the following Ayurvedic herbs are recommended:

- *Arjuna Vishisht\**, bark of the Arjuna tree - one of Ayurveda's most powerful cardiac tonics, helps to promote blood circulation and regulate blood pressure.
- *The herbal complex Guggul Ghan\**, on the basis of Guggul, which is extracted from the Indian mukul myrrh tree. Guggul helps to lower cholesterol levels and protect against the development of hardening of the arteries. It also helps to regulate metabolism, and can therefore help in weight loss.
- *Shilajit*; is extracted from the Himalayan Mountains. It normalizes the blood glucose level, contains an abundance of minerals, boosts immunity and increases energy. It helps to control blood pressure and supports kidney function.

Ayurveda also recommends following a Kapha-pacifying diet and lifestyle. Eat more pungent, bitter and astringent foods. Meals should be warm, light and dry, with hot spices, but no salt. Occasional fasting or skipping a meal is good. Cold or ice water must be avoided. Herbal teas are good. Especially dairy products, eggs, butter and fat foods should be avoided. Use more hot spices, such as pepper, ginger, and particularly onions and mustard. Kapha-reducing lifestyle includes strong exercise, brisk walking and travelling. Avoid cold and damp, and sleeping during the day. Again Shirodhara (the “heavenly head massage”; rhythmic pouring of warm oil on the forehead).

### CAUSES OF HYPERTENSION ACCORDING TO AYURVEDA

In the previous section we explained the doshic causes of hypertension. When for instance Vata dominates in the body, it will accumulate first in its main seat – the colon – or other Vata-sites, such as the nerves. If it's not balanced, the dosha will have the tendency to spread beyond its normal seat: “viti-ation”. In the next stage the dosha moves out of its home seat and begins to circulate in the body. There are still no specific symptoms, but now some vague, non-specific symptoms may occur such as aches or mild malaise. So according to Ayurveda, at the time we will start to have symptoms, we may find ourselves already in the third stage of disbalance. And now it is essential to start balancing the doshas and maintain health, before disease kicks in. For this reason Ayurveda's main focus is on disease prevention. If the doshic balance is maintained, disease will not develop.

But how does imbalance occur, leading to possible hypertension in the first place? According to Ayurveda, unhealthy diet and sedentary lifestyles are the primary causes of hypertension today. Most of the food items that we consume are fast foods or items packed with preservatives and chemicals. They will create digestive problems in the body, leading to the accumulation of Ama (toxins), and this will further lead to the high blood pressure. Ama is also being produced when we eat incompatible foods (for instance a Vata person eating Vata-aggravating foods), in incompatible combinations and following incompatible lifestyles.

*In general the major causes of hypertension are the following:*

- Toxins (Ama) that accumulate in the body tissues.
- Weak/impaired digestion.
- Poor nutrition, unhealthy eating habits (incompatible foods, fast foods, too much fat etc).
- A hectic lifestyle.
- Too much (physical, mental, emotional) stress.
- Dosha imbalances.
- Hardening of the arteries.
- Obesity.
- Smoking and an excessive intake of intoxicants.
- Lack of exercise, sedentary lifestyle.
- Insufficient rest and sleep.
- Family history of hypertension.
- Imbalance of the nervous system.
- Disruption of natural biological rhythms.

### HIGH BLOOD PRESSURE AND THE MIND

The Mind has a strong influence on the heart, according to Ayurveda. If someone has mental stress, this may lead to the onset of hypertension. Mental stress accumulates in the physical body, but starts in the brain, which is the gateway between the mind and the body. Ayurveda believes that stress is largely caused by an imbalance in Prana Vayu. This subdosha of Vata moves downward from the head into the body and regulates nervous impulses, including heart rate and blood pressure. When Prana Vayu is disturbed, hypertension can occur due to excessive sympathetic stimulation. But as we have said before, hypertension can also result from genetic or lifestyle factors. These are caused by unhealthy/stressful mental patterns, which affect the circuits of the brain leading to high blood pressure.

### YOGA

Research has shown that practicing yoga (including poses or asanas, breathing techniques and meditation) lowers blood pressure. It is a great and natural way to release all the different types of stress (mental, emotional and physical). Yoga postures (asanas) help in regulating the blood pressure by stabilizing the sympathetic and parasympathetic nervous system and bring balance to the autonomous nervous system, a centre

that controls stress. It also enhances the functioning of the endocrine glands, digestive organs, heart and other organs.

### FOOD AND DIET

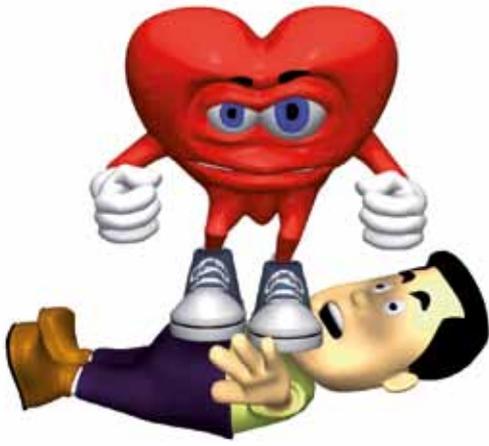
Ayurveda recognizes that the diet is an essential part of treating hypertension. All three doshas (Vata, Pitta, Kapha) may cause an aggravation of blood pressure, therefore the general diet for hypertension must pacify the Tridosha. The golden rule for this diet, is that it should consist of easily digestible foods that are nutritious and pure. Recommended are the following dietary guidelines:

- Eat meals that are low in saturated fats. Saturated fats and cholesterol are widely accepted to be the causes of coronary heart disease. A lot of processed foods like pastries, cakes, biscuits, and crisps have high amounts of saturated fats. “Healthy fats” are recommended, like cold pressed oils (e.g. avocado, flax seed and olive oil), ghee (clarified butter) and fatty fish, since they protect the heart and arteries.
- Avoid hot and spicy foods, which are difficult to digest.
- Eat more vegetables and fruits (juices), and sprouted vegetables (e.g. alfalfa, broccoli and clover sprouts). Fresh fruits are very useful in fighting high blood pressure. Indian Gooseberry, grapes, banana, guava and watermelon are considered beneficial. Dry fruits are also considered to be harmless.
- Have more rice, whole grains (avoid white flour products: white bread, white pasta), whole wheat bread etc.
- Choose low-fat over full-fat dairy products, since the latter ones contain more saturated fats.
- Avoid meat as much as you can, especially red meat.
- Avoid chocolates and sweets.
- Limit sodium in the diet.
- Limit caffeine intake (coffee, black tea, Red Bull, cola etc). Caffeine enhances the action of adrenaline and noradrenaline, which are both important in increasing blood pressure levels. Herbal teas are warmly recommended though.



### Lifestyle recommendations

Ayurveda says living naturally according to some simple principles can prevent suffering needlessly from debilitating conditions. Learning to listen to our body and reading the signals of distress can help maintain health, and lead a more productive and contented life.



- An important step in lowering blood pressure or avoiding hypertension is normalizing body weight. In addition, losing weight may help reduce total cholesterol levels in the blood as well. High cholesterol is in fact a major risk factor for coronary heart disease, which leads to the heart attack or stroke. On the other hand, merely maintaining a healthy body weight, doesn't necessarily entail normal cholesterol levels, because this will depend solely on the amount of cholesterol in someone's diet. This doesn't mean one has to stop eating fat, because fats have many essential functions for our overall health. Ayurveda, however, advises to reduce the intake of saturated and trans fats in our diet. Saturated fats are found in foods like butter, ice cream, other full-fat dairy products, eggs, fatty meats, and some oils. Trans fats are mostly found in margarines, cookies, crackers and cakes. Any diet for hypertension should be low in both these fats, also low in salt, easily digestible and preferably vegetarian. An effective way to reduce cholesterol and excess fats is to soak one teaspoon of fenugreek seed in water overnight and chew them early in the morning on an empty stomach.
- Avoid or reduce stress (all types: physical, emotional and mental) as much as possible. Practicing yoga, breathing exercises (Pranayama) and meditation is very effective, but so are hobbies and exercise. Don't suppress your feelings – let out your frustrations and sorrow. Speak your mind and tell colleagues, friends etc. about your problems – this can help in venting your feelings, which will reduce stress.
- Try to have a lifestyle that does not disturb your natural body rhythms. When we eat, sleep and exercise in constantly fluctuating and disturbing patterns, the body loses its natural balancing cycles and cannot cleanse or heal itself as effectively. Therefore, regularity in our daily routine can be extremely effective in reducing physiological imbalance at the basis of hypertension.
- Communicate the truth in a tactful manner. Hiding the truth gives stress and pressure, boosting again our blood pressure, and wearing away our life force. It will cost us the energy that would otherwise be used to keep us healthy.

- Avoid smoking.
- Regular exercise is one of the best ways to lower blood pressure. But it has to be suitable for your health condition. Too much exercise will have the opposite effect, and create stress on the body. In case of tiredness, ill health, or when you're not used to exercise, start with walking and gradually work up to exercise routines suitable for your health condition. Walking, jogging, athletics, swimming or cycling are best preferred. However, walking is the best of all these activities – it also reduces tension and stress.
- Chronic anger produces elevation in blood pressure and it can be a serious risk factor for coronary heart disease. So be gentle, speak softly – even if it is in case of extreme displeasure.
- Laughter is the best (and cheapest!) therapy. It is actually as good as relaxation therapy, exercise or other methods used to overcome stress. Studies show that laughter decreases adrenaline and cortisone production. Even if you have to fake it, try to laugh even when you're irritated, frustrated, angry or unhappy.
- Even when it's difficult: be loving and respectful towards yourself and others. Love and affection, and affectionate touch can significantly drop your blood pressure. Loving attention (for your body as well: touch, massages!) is perhaps the best medicine you can give yourself.

## IN CONCLUSION

In this article we have tried to cover the most fundamental aspects of hypertension, and explained the treatment of hypertension from an Ayurvedic perspective. Regarding this, it is essential to understand that high blood pressure is not seen as a disease in Ayurveda, but as a symptom in itself. And for each person, the cause for his/her blood pressure irregularities may be different. The concept behind an Ayurvedic treatment of hypertension is attempting to find the root cause of the problem by treating the whole person, not just the symptom. That's why we will always advise you to consult your Ayurvedic physician, if you have any complaints, doubts or questions – he is able to evaluate your total health picture, identify your particular imbalances and treat you accordingly. Because hypertension can be influenced by many factors, the Ayurveda approach to treatment is both comprehensive, and personalized – according to the patient's body constitution.

*\*All the Ayurvedic remedies and herbs that are mentioned in this article, can be bought at our clinic. For additional information about our products or any other questions, please don't hesitate to contact us at: [info@pdiaurveda.com](mailto:info@pdiaurveda.com).*

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