

# HEALTHY **BLOOD** **PRESSURE** PROTOCOL



BLANE SCHILLING M.D.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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Printed in the United States of America

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **TABLE OF CONTENTS**

History of Blood Pressure.....	5
Chapter #1: History of High Blood Pressure.....	8
Chapter #2: Inflammation: The Root Cause of Hypertension .....	12
Chapter #3: Stress and Sleep .....	16
Chapter #4: Diet .....	21
Chapter #5: Exercise .....	28
Chapter #6: Supplements.....	33
Chapter #7: Men vs. Women.....	38
Conclusion:.....	41
Resources: .....	42

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Dr. Blane Schilling M.D.

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# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **Healthy Blood Pressure Remedy**

Throughout the 1980's, 1990's and still well into the 2000's an epidemic was sweeping through the United States killing individuals from California to North Carolina. Obviously, this is a serious plague on American's health, and the medical community has duly noted its existence and tried to find solutions. However, no one is discussing the true ramifications or remedies. This plague of our lifetime is not a virus or bacteria; it is high blood pressure. High blood pressure is a silent, sneaking health condition that, despite medications and doctor's recommendations, leads to deaths in the United States every year.

The accurate medical term for high blood pressure is hypertension.<sup>2</sup> It is a condition that becomes increasingly worrisome as people age, and is much more likely to affect adults over 65 than any other age group. Other health conditions also increase the chances that you may develop high blood pressure. However, before diving into the history of hypertension and future actions individuals can take to remedy it, it is essential to answer a few questions about hypertension and other blood pressure issues.

### **What Is Blood Pressure?**

One of the first questions that must to be answered is what is blood pressure? In very simple terms, blood pressure is the amount of pressure in the arteries as the heart pumps blood throughout the body. In other words, blood pressure is how much blood is passing through



# HEALTHY **BLOOD PRESSURE** PROTOCOL

---

the arteries and the amount of resistance against this movement.<sup>3</sup> Therefore, the amount of blood moved through the body, the size and diameter of the arteries, and strength of the heart can all affect blood pressure.

However, many people associate blood pressure with the reading received at a doctor's office and the wide, black cuff that exerts a soft grip on their upper arm. Doctors and scientists express a blood pressure reading in millimeters of mercury. When written it appears as mm Hg. The numbers refer to the number of columns that mercury rises to produce the appearance and cessation of sounds as blood moves through the arteries.<sup>4</sup>

To determine blood pressure, doctors take two different readings. The first is systolic pressure, the highest point of an individual's blood pressure and made by the pulsation of blood through the arteries. The second number is the diastolic pressure, which is the lowest point of an individual's blood pressure and determined when there is a disappearance of sound of blood flow.<sup>4</sup> The disappearance of sound indicates the baseline of an individual's blood pressure as it indicates the lowest amount of pressure in the arteries.

A healthy adult human being should have a systolic pressure and diastolic pressure of 120/80.<sup>5</sup> Many people will describe these readings in terms of points, therefore it would be 120 points over 80 points, in the case of perfect blood pressure. Of course, this is an ideal number, and many individuals will fall above or below this mark. Movement within a few points of this perfect reading is acceptable on a medical and physical level, but when an individual's systolic and diastolic pressure climb too high, it becomes an issue.

## **What Is High Blood Pressure?**

Second, it is essential for people to understand what is hypertension. High blood pressure or hypertension occurs when the pressure in the arteries is too high. The pressure reaches levels that are unhealthy and could cause other health

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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complications.<sup>3</sup> However, in many instances hypertension does not present any direct health complications or symptoms, and individuals who do not go for regular doctor visits or checkups can live for years unaware that they have this adverse health condition.

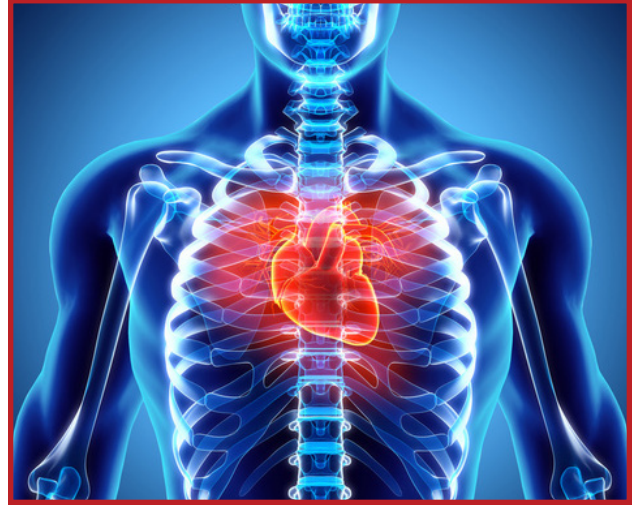
For medical and diagnosis purposes, hypertension is defined by a particular reading of the systolic and diastolic pressure for an individual. Hypertension is diagnosed as a blood pressure reading of 140/90. Today, over 80 million Americans (or 75 million Americans as estimated by the Center for Disease Control<sup>6</sup> have been diagnosed with high blood pressure.<sup>7</sup> It is estimated that high blood pressure affects nearly one billion people worldwide. That makes it more than an American problem; it is a global health crisis to which few average people are paying attention.



# HEALTHY **BLOOD PRESSURE** PROTOCOL

## **Chapter #1: History of High Blood Pressure**

The current status of high blood pressure, related illnesses, and number of scripts written specifically to lower high blood pressure disguises the fact that for most of history human beings did not experience high blood pressure. The recent rise in high blood pressure begs the question: why are people now at greater risk for hypertension and high blood pressure?



### **History of Scientific Discovery Related to High Blood Pressure**

The history of high blood pressure coincides with the initial research into the cardiovascular system. While physician William Harvey had some of the first theories on the cardiovascular system and the circulation of blood, it wasn't until Stephen Hales measured arterial pressure in 1733 that the bodily process of blood pressure was described and documented by humans.<sup>1</sup> Of course, Hales did his scientific research on horses, and it wasn't until later that human cardiovascular systems were better understood.

The first devices to actually measure blood pressure were developed almost 100 years after Hales made his discovery of arterial pressure. In the intermediate century, there were certain developments in terms of devices and procedures for determining blood pressure. However, these were invasive procedures and because a lot was unknown about hypertension and the health consequences, the average person would never undergo the process.



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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In part, a lot of information about hypertension was undiscoverable prior to 1896.<sup>2</sup> This was the year the inflatable cuff was invented. This device is recognizable in most doctors' offices as the black cuff used to determine an individual's blood pressure. Prior to 1896 there were less accurate ways to measure blood pressure, but few, if any, doctors checked blood pressure and the majority of people did not know the concept existed. When we look back from 2017, 1896 was an important year in the history of health and wellness.

After 1896, information and testing for hypertension became much more accessible. Certain developments in the early 1900's, such as Russian physician Nikolai Korotkoff discovering the sounds doctors can use to measure blood pressure through noninvasive procedures.<sup>1</sup> These unique sounds were eventually named after Korotkoff. As well as, the broader use of the sphygmomanometer for determining high blood pressure. Insurance companies and physicians began weighing in on how high blood pressure could affect overall health, with Northwestern Mutual Life Insurance asserting that the determination of blood pressure would eventually be required for all individuals applying for health insurance.<sup>1</sup>

## **Modern Knowledge of High Blood Pressure**

The American population should have been alerted to a correlation between high blood pressure and death in 1945 when President Franklin D. Roosevelt died of cerebral hemorrhaging related, in part, to his high blood pressure. Perhaps, FDR's additional medical concerns masked one of the biggest causes of his death, but even FDR's physician stated that his death was a shock.<sup>8</sup>

It was not until 1979 that the Actuarial Society of America completed its lengthy study on the relationship between high blood pressure, body size, and mortality.<sup>1</sup> This was the first time a study specifically tied hypertension directly to health concerns and earlier death. From this point, studies and research in the scientific and medical fields focused on how high blood pressure caused certain illnesses,

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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shortened life, or potential for life threatening conditions.

The ability to determine high blood pressure and detect it in medical patients explains why more people are diagnosed with high blood pressure as time progresses, but it cannot tell the whole story. Medical professionals have been identifying high blood pressure for a number of years and regularly testing patients, but cases of high blood pressure continue to be more frequent. This process of scientific and medical discovery does not fully tell us why as recently as 50 years ago high blood pressure was not considered a serious condition or why the number of people with high blood pressure rose greatly between during the one hundred years from 1900 to 2000.<sup>9</sup>

## **Rise in Cases of High Blood Pressure**

Since viable technology to measure blood pressure, cases of hypertension have steadily risen. It is estimated that between 1999 and 2008 the percentage of people who are aware they have high blood pressure went from 69.6% to 80.6%. While this increase in awareness indicates good things for treating high blood pressure, it also shows that in a short amount of time there are likely more people who have high blood pressure in the United States alone.

Therefore, in part the rise in high blood pressure cases is due to more awareness and dissemination of information. For a number of years, high blood pressure was considered an untreatable condition, and even when individuals were made aware they had high blood pressure, few recommendations were made for addressing the issue. However, more information and better diagnosis should lessen the number of people with high blood pressure. Yet, the number of individuals in the United States and around the world with high blood pressure continues to grow.

Doctors and scientists have wondered what is causing more people to have the condition. While there are a number of theories on what causes hypertension, few if any are backed by certain evidence. Instead, doctors continue to offer a

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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number of different causes, many of which are related to lifestyle and overall wellness. It is possible to include healthy lifestyle changes and our complete foolproof method we've developed at Functional Aging Institute and perfected for the everyday average person who wants to reverse their hypertension permanently and naturally for the rest of their lives. Keep reading to learn the most common things we think contribute to high blood pressure and the ultimate blood pressure remedy for each of these contributing factors.

The research shows that diet, exercise, weight, sodium intake, sleep, stress, genetics, and inflammation could all increase the chances of high blood pressure. As diets include more processed and fatty foods, people exercise and move less for work and enjoyment, obesity becomes a bigger issue, people consume more salt, we sleep less, and stress more – our lives become the perfect combination of bad habits for hypertension. The continuation of these lifestyle choices and bad habits all result in the very real blood pressure dilemma of the 20th and 21st century.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **Chapter #2: Inflammation: The Root Cause of Hypertension**

Hypotheses on the root causes of hypertension have been floating around the medical community for a number of years, but historically the research focused on the effects of hypertension, not the cause. It wasn't until recently that scientists began taking a serious look at what causes this medical condition. Therefore, the medical community and general population are still learning the true causes of hypertension. While doctors believe a number of factors can lead to hypertension a definitive answer is elusive.<sup>10</sup>

It is important to know that there are two types of high blood pressure. The first is primary or essential hypertension, and the second type is secondary hypertension.<sup>11</sup> Primary hypertension does not have a clear-cut cause. Adults who develop primary hypertension normally do so over an extended period of time, and it can be difficult to determine the exact cause. Alternatively, secondary hypertension is directly related to an underlying cause, whether it is an activity, lifestyle choice, or condition of a given individual.<sup>11</sup>

### **Lifestyle Choices and Hypertension**

There are a number of behaviors that research shows can adversely affect blood pressure and lead to secondary hypertension. An unhealthy diet, lack of exercise, being overweight, and abusing controlled substances such as drugs and alcohol all make the list.<sup>6</sup> Research shows that illegal drugs, like cocaine and amphetamines, can swiftly raise blood pressure in users.<sup>11</sup> These lifestyle choices cause other health concerns and conditions, and for the most part, it



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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is advisable to refrain from these activities for heart health, clearer skin, better energy levels, and a longer life.

Because there are so many lifestyle choices that intricately impact blood pressure, doctors have called hypertension a lifestyle condition. Many medical professionals believe that there is not a single lifestyle or wellness choice that can completely solve high blood pressure.<sup>12</sup> For instance, exercising three times weekly may lower blood pressure, but smoking a pack of cigarettes a day could offset it. Blood pressure is affected by each lifestyle choice we make, and is sensitive to our every day choices. This makes it an even more difficult problem to solve.

## **Medical Conditions that Lead to Hypertension**

As stated, behavior isn't the only factor that leads to secondary hypertension. Other health conditions are a major reason people develop high blood pressure. Individuals with chronic kidney disease and thyroid disorders are repeatedly diagnosed with hypertension. The reason kidney disease raises blood pressure is because the kidneys regulate salt in the body by filtering blood and retaining excess sodium.<sup>13</sup> Malfunctioning kidneys means higher blood volumes and higher blood pressure.

Thyroid disorders affect blood pressure in a different way. The thyroid is responsible for secretion of specific hormones. Typically, the thyroid keeps these hormones balanced in the body, but a disorder can lead to overproduction and secretion into the blood stream. If the amount of these aldosterone hormones climbs too high the blood vessels begin to constrict.<sup>13</sup> In turn, blood pressure rises.

While additional health conditions, such as kidney disease and thyroid disorder can lead to secondary hypertension, with modern medicine individuals are often diagnosed before this stage. The diagnosis is known as prehypertension. Prehypertension is blood pressure slightly above normal, and doctors treat it as a sign that higher blood pressure is on the horizon.<sup>10</sup>

# HEALTHY **BLOOD PRESSURE** PROTOCOL

---

Other conditions that cause prehypertension include adrenal disease and sleep apnea. As well as certain lifestyle choices and medications, including birth control, decongestants, over-the-counter pain relievers, and specific prescription drugs.<sup>10</sup> While prehypertension should not be taken lightly, the most common recommendation is making lifestyle changes or treating the underlying condition before a more serious situation arises.

## **Uncontrollable Conditions that Raise Blood Pressure**

There are two important factors that are unrelated to lifestyle, wellness, and entirely out of individuals' control. However, both of these factors are shown to have a significant effect on high blood pressure. The first is age and the second is genetics.

The relationship between age and high blood pressure is straightforward. The older you are the more likely you are to have high blood pressure.<sup>14</sup> This is true for nearly every individual. Of course, age does not always equate to the development of hypertension. There are a number of elderly adults who do not have high blood pressure. Additionally, there are some noticeable differences between men, women and the likelihood of developing hypertension at a certain age. We will discuss these difference later in this book.

Genetics and the development of high blood pressure have been linked for a number of years. Doctors noticed that family members were likely to have high blood pressure, and conversely other families had no history of hypertension at all.<sup>15</sup> This led to research and attempts to correlate genetics with high blood pressure in a manner similar to cancer and other medical conditions.

It is thought that there is a genetic basis for some individual's development of high blood pressure, but it does not explain why other individuals also develop the condition. As the Center for Disease Control points out, the relationship between heredity and high blood pressure is still a theory, not medically proven.<sup>15</sup> Further, it is often thought that a healthy lifestyle could counteract any genetic

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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predisposition to high blood pressure.

## **The Close Relationship Between Inflammation and Hypertension**

Much of the danger of hypertension comes from how it interacts and affects other health conditions. For instance, an individual with heart disease and high blood pressure is much more likely to have a heart attack, than someone with just one of these conditions. The same is true for hypertension and inflammation. When an individual has hypertension and inflammation, he or she is up to eight times more likely to have a heart attack or stroke.<sup>16</sup>

The most important studies to date measuring the interaction between inflammation and high blood pressure focus on women who have high levels of C-reactive protein, known as CRP. In this study women with hypertension and high CRP were much more likely to have cardiovascular problems.<sup>16</sup> While this was a specific finding, doctors believe the research will be extended to include many other forms of inflammation.



# HEALTHY **BLOOD PRESSURE** PROTOCOL

## **Chapter #3: Stress and Sleep**

As explained there are a number of factors that can cause hypertension or worsen the condition for a person already experiencing high blood pressure. While some individuals have preexisting conditions or possibly genetic predisposition to high blood pressure, other people make lifestyle decisions that can cause blood pressure to rise.



Two lifestyle choices that can have a considerable effect on blood pressure are sleep and stress. Too little sleep and too much stress can cause blood pressure to rise above normal levels. However, finding balance in both of these daily aspects of life could lead to natural ways to lower blood pressure.

### **Why Does Sleep Affect Blood Pressure?**

According to a number of recent studies, sleeping less than six hours a night can have a serious effect on your blood pressure, and this is not a positive effect in the slightest.<sup>17</sup> When you sleep fewer than six hours a night, blood pressure begins to climb. The longer you maintain sleepless or non-restful nights, the higher blood pressure can be.

So, why does lack of sleep cause higher blood pressure? It might have to do with the body's ability or inability to reach its lowest blood pressure levels throughout the day. Your blood pressure fluctuates throughout the day. While the waves of high and low blood pressure can differ from day to day and change significantly minute to minute, in general your highest blood pressure hits during midday while

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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your lowest levels occur overnight.<sup>17</sup>

Therefore, sleep, deep sleep is the most restful time for your body and your blood pressure. When you do not sleep enough to hit the basement level for your blood pressure, the fluctuation in blood pressure starts from a higher point. With nowhere to go but up, it continues to climb until midday. Eventually, your blood pressure hits a point higher than it would have been at had you slept six hours or more. Sleeping less than six hours limits the low level of blood pressure, research has found blood pressure can be up to 20% higher in these individuals.<sup>18</sup>

Yet, there is a caveat to the six-hour requirement. This does not simply mean six hours in bed, but six hours of good sleep. Studies have found that REM sleep is essential to lower blood pressure.<sup>19</sup> The most recent study looked at men over the age of 65 and followed their sleep patterns. It determined that men of this age, who were already predisposed to high blood pressure, were less likely to have prehypertension or hypertension if they had enough deep sleep a night.<sup>19</sup> At this time, doctors state that lacking deep sleep increases the risk of high blood pressure, but are remiss to admit that it is a direct cause.

This study provides one of the first connections between sleep waves and blood pressure, but it could be an important link going forward. The next question that researches want to answer regarding sleep and blood pressure, is whether long-term sleep deprivation has an effect on blood pressure years later.

## **Good Sleep as a Natural Blood Pressure Remedy**

While less than six hours of sleep a night can lead to higher blood pressure, the inverse is thought to be true. As the recent study into sleep patterns suggests, there is no determination that righting long-term sleep deprivation is a direct cause of later in life high blood pressure. However, doctors and scientists are pretty certain that getting more sleep is a natural remedy for high blood pressure.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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Studies indicate that when individuals sleep between eight and nine hours a night, blood pressure drops.<sup>17</sup>

Additionally, a good night's sleep will help reduce anxiety and bad moods, while increasing mental alertness and energy levels.<sup>20</sup> In these ways, sleep can also lower blood pressure and help create a healthier lifestyle.

## **High Blood Pressure and Sleep Apnea**

There are a lot of doctors worried about the effect of sleep apnea on high blood pressure. Sleep apnea is commonly associated with snoring, and that is a common symptom of this medical condition. However, sleep apnea is actually the brief, but very important, time period when a snorer stops breathing during sleep.<sup>21</sup> This gap in breathing is what causes a lot of people to snore, but it is also seriously messing with blood pressure and other bodily functions.

As with other medical conditions, people with sleep apnea experience the condition to various degrees and complications. People can stop breathing anywhere from five to 30 times an hour, and the more gaps in breathing the more serious the condition is considered.<sup>21</sup> This is because these gaps, are more than annoying to other sleepers when they cause snoring, these gaps are preventing an individual from achieving deep, restful sleep.

As discussed earlier, a lack of restful sleep is likely causing blood pressure to rise. For people who lack sleep or have a fitful night, it is easy to adjust schedules, lifestyles, and mindsets to sleep better. However, people with sleep apnea are not so lucky. Plus, sleep apnea is thought to affect blood pressure in another way. The delays in breath cause an unexpected drop in oxygen flowing to the brain during sleep. This constant up and down of oxygen is also causing blood pressure to rise.<sup>22</sup>

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **High Stress and the Relationship with High Blood Pressure**

There are a number of movie moments that highlight the possible correlation between stress and blood pressure. The assumption that as stress increases so does blood pressure has led to a number of fictional wives yelling, “honey, your blood pressure,” as their husbands get work up or overly upset. Yet, there is some real life medical basis for this film presentation of stress and high blood pressure. Job stress is one of the biggest and most commonly cited reasons for high blood pressure in adult males.

The first study that connected stress to hypertension occurred over 100 years ago. This study determined that of the men considered by the researchers, those under work pressure, including management and responsibility, were more likely to have high blood pressure.<sup>23</sup> Thus, the men with the big jobs and pressing responsibilities became the poster boys of hypertension. However, the research since has indicated some interesting nuances to the general assumption that every stressed individual is going to have abnormal blood pressure.

When you are able to lower your stress levels, blood pressure will similarly drop. One great way to do this is by employing breathing techniques and meditation.<sup>20</sup> For instances, my #1 breathing technique to use before your head hits the pillow or when you wakeup that’s guaranteed to lower your high blood pressure by 20%. This large decrease in blood pressure could be a huge deal for many people and the difference between hypertension and normal, healthy blood pressure.

Easily, one of the best breathing techniques for blood pressure is diaphragmatic breathing. Never done this before, not a problem! To practice this technique, simply find a comfortable sitting position and place a hand on your abdomen. As you take a deep breathe, count to six. Your abdomen should expand under you hand as you inhale. Then, briefly pause at the top of your breath before you exhale for six seconds. Your abdomen should become concave at the lowest point in your breath. Repeat for a minute or longer.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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You might wonder why a breathing technique or similar daily meditation lowers blood pressure. Breathing techniques do more than regulate the breath. It brings unity to all parts of the body and syncs your natural rhythms. This is good for balance inside the body. As well, breathing techniques are great for limiting and eliminating stress.<sup>20</sup>

While lack of sleep or high stress can separately cause blood pressure problems, the combination is even worse. When individuals are sleep deprived and under chronic stress, it leads to massive spikes in blood pressure. Meanwhile, ensuring you get enough shut eye and eliminating chronic stress will cause your blood pressure to drop quickly.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **Chapter #4: Diet**

What you eat has a massive effect on your blood pressure, at least for the majority of Americans. Changes to diet over the last 100, or more, years is one of the reasons doctors and researchers believe high blood became a more widespread issue during the 1970's through 2000's. In this chapter you will find information on why a diet high in fructose can not only cause high blood pressure, but the worst foods that close your capillaries, constrict your arteries and force your blood pressure to rise without even knowing.

While a change in diet corresponds to the rise in hypertension in American adults, a lot of research indicates that the reverse is also true. A number of foods can quickly lower high blood pressure or mitigate genetic and predisposition to higher blood pressure. For example, my #1 favorite fruit that helps open your blood vessels while lowering your hypertension is berries. These sweet fruits come in different varieties, but as you'll read most berries provide nutrients needed to lower blood pressure.

### **The Bad for You Foods**

First, we will explore what foods are bad for people with high blood pressure or hypertension. This list is by no means inclusive of the foods that can cause blood pressure to fluctuate upwards; as researchers and health professionals are still working to determine what foods can and will affect blood pressure in different individuals. These are simply foods (or beverages) that have repeatedly been named high blood



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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pressure offenders by the research.

If you spoke with a number of doctors, most would probably advise that one food group to avoid if you have hypertension or higher blood pressure would be sodium. In fact, sodium has been linked to high blood pressure for so long and so thoroughly that the American Heart Association includes an entire section on the topic.<sup>24</sup> Here is how it works. If you consume a small, healthy amount of salt it is good for your body and systems. Sodium leads to water retention, which helps keep you hydrated and all functions running smoothly.<sup>25</sup> It is when you overindulge that the problems arise.

When you consume over 2,300 milligrams of sodium per day, your body starts to retain water in unhealthy amounts. This causes blood pressure to rise. Experts say it is helpful to avoid using salt when you cook at home, which should be a regular habit during your week and remove the salt shaker from the dining room table.<sup>24</sup> This second recommendation can eliminate a number of instances when temptation to add more salt are at hand; the easier sodium is to access, the harder it is to resist.

Instead of salt, turn to other spices to flavor in your food. An ancient spice found in your kitchen proven to be better or similar to most hypertension drugs on the market...and did I mention you only need a small amount to get these blood pressure lowering effects? Cumin, allspice, paprika, sage, and basil are just a few examples of spices that can take your food to the next level in terms of flavor, but will keep your sodium balanced and healthy.<sup>24</sup>

Also, health professionals suggest that if you suffer from high blood pressure it can be helpful to read labels carefully, track sodium consumption on a daily or regular basis, and eat fewer processed foods.<sup>27</sup> This last piece of advice, making the transition to unprocessed and all natural food products could be a great long-term way to eliminate excess sodium.



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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Within this same vein of advice, the recommendation is to focus on adding fruits and vegetables to your diet.<sup>24</sup> Both fruits and vegetables can be high in water content and low in sodium; think apples, celery, watermelon, and carrots. This allows you to refill the tank in terms of hydration, without needing sodium to retain more water. That is a win-win for your circulatory system overall, heart, and blood pressure, in particular. Plus, these foods are packed with goodness that your body wants and needs, such as vitamins and nutrients.

Recently there have been some studies that question the decades long finding that salt is bad for blood pressure. It will take a long time to sort what is accurate among these new findings.<sup>25</sup> Within this book you'll learn the reason why salt is NOT the true cause of high blood pressure and why the popular DASH diet does nothing to cure the true cause of high blood pressure.

Also making the list of worst foods is not a food at all, but beverage, namely alcohol.<sup>26</sup> In high quantities, alcohol will cause an increase in blood pressure. Sometimes the effect of alcohol on high blood pressure seems to worsen as adults age. Men and women over the age of 65 should not consume more than one standard drink of alcohol per day to keep blood pressure at optimum levels. While women under 65 are advised to consume the same limited amount of alcohol, for men younger than 65 the recommendation is two or fewer standard drinks per day.<sup>27</sup>

Yet, alcohol has an interesting relationship with blood pressure, when consumed in moderation it has actually lowered blood pressure in some individuals. Doctors have noted that in some individuals consuming small amounts of alcohol has lowered blood pressure by as much as two to four mm Hg.<sup>27</sup> Despite these results in some studies, there are a number of health reasons, such as heart health, weight, and higher energy levels, to limit alcohol consumption to an infrequent experience.

Another substance food substance that raises blood pressure is found in a number of processed foods. A study of high fructose corn syrup's affect on blood

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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pressure was done by the Journal of the American Society of Nephrologists. The researchers found that of over 4,500 adults without hypertension, those who had a high intake of high fructose corn syrup were more likely to develop hypertension down the road.<sup>44</sup> This negative effect on blood pressure is among the many health concerns that come consuming a lot of high fructose corn syrup. The sugar has been tied to obesity and risk of diabetes for a long time.

Lastly, but certainly not least on the foods to avoid if you are at risk of having or do have high blood pressure is bad fats. Of course, it is necessary to explain what are bad fats versus good fats in a diet. Bad fats are saturated fats, which are typically found in rich dairy products, eggs, and fatty meats. While labeled as bad fats, humans definitely need some saturated fat in their diet to maintain strong muscles and a healthy weight, but everyone should consume saturated fat in moderation, not just those with possible hypertension.

So, diets that are high in fat can cause higher blood pressure in individuals. What is most important for people to realize is saturated fat directly raises blood pressure.<sup>28</sup> Saturated fats cause your arteries to narrow. The smaller space for circulation of your blood leads to blood pressure going up. As well, a diet that is high in saturated fats increases the risk of heart disease or stroke. When an individual has high blood pressure and narrower arteries, the chances of a heart attack or stroke climb exponentially.<sup>28</sup>

## **The Good for Your Foods**

Of course, with the bad is the possibility with replacing those foods and needed calories with options that are healthy for blood pressure. Luckily, studies have identified quite a few foods that can help actively lower blood pressure. Adding these to your diet, particularly instead of the bad for you foods, could mean substantial changes to your blood pressure levels.

Foods that positively impact your blood pressure do not have to be bland, nor are

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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all of these foods fruits and vegetables. For instance, oatmeal and other whole grains are a great source of fiber without the sodium and fat.<sup>26</sup> For a turbo boost of blood pressure healthy foods, add berries to your morning oats.

The combination is a fantastic way to start your day, and the berries you choose can vary from strawberries to blackberries, for a source of variety. Why do the berries put things into overdrive? They add flavonoids to your fiber-rich breakfast, which could lower blood pressure and help with hypertension.<sup>26</sup>

Another great way to add berries or other flavonoid heavy foods is through a smoothie. My smoothie cocktail you can whip up at a moment's notice, costs less than a \$79 cents and immediately cuts your blood pressure numbers by 10-20 points. Plus, the smoothie is easy to make in the morning or at the end of a long day, which makes it a good choice for busy individuals who may otherwise ignore their diet. This smoothie should include a handful of frozen berries, spinach, low-fat yogurt, and wheat germ. Each of these ingredients is high in a vitamin or nutrient shown to lower blood pressure.

There is evidence that these drops in blood pressure from certain fruits are particularly present for women with high blood pressure. A study in Florida looked at the effect of regular blueberry consumption on systolic and diastolic pressure in women after menopause.<sup>29</sup> The results of the study showed a drop in both numbers after just eight weeks into the study. That shows how fast a change in diet could affect your blood pressure.

Beetroot is a great food for lowering high blood pressure. Americans seems oddly adverse to this nitrate packed root vegetable, but developing a palate for this juicy, purple food could be the difference between developing hypertension or not. Nitrates give your arteries a soft nudge to relax and soften, which lowers blood pressure.<sup>30</sup> There are other foods high in nitrates, but there is a secret to including beetroots in your diet. Often, beetroots are served uncooked. This means the nitrates are not exposed to high heat, and the beneficial nitrates in

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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beetroots do not become unhealthy nitrosamines.<sup>30</sup>

In addition to a high-fiber diet, potassium is proven to help lower blood pressure. Potassium does this by helping the kidneys work faster; faster kidneys mean more sodium removed from the body through your urine, in turn lower sodium and lower blood pressure.<sup>26</sup> While many people do their weekly shopping without a thought to potassium, it is an important nutrient for the human body. Fruits and vegetables will be one of the best sources, so spend more time in this aisle to pick up the right foods.<sup>27</sup> Some specific examples include kale, romaine lettuce, and spinach.<sup>26</sup>

Finally, nutritionists recommend adding the common Asian spice turmeric to your diet to lower blood pressure. Evidence shows that curcumin in turmeric has anti-inflammatory properties.<sup>30</sup> This may explain why cultures have used turmeric for medicinal purposes for a very long time, but foods with anti-inflammatory properties can also lower blood pressure. That makes turmeric a great spice to keep on hand and incorporate into curries, smoothies, and sauces.

While each of the foods on this list are great ways to pack in fiber and potassium for better blood pressure, the best way to really lower your blood pressure is by eating an all-around healthy diet.<sup>31</sup> You want to attack high blood pressure through sustainable lifestyle changes. This might mean not trying to alter every meal or cutting out every tempting salty choice, but it does mean making conscious decisions throughout your day to include the right foods. Keep a food diary, shop smart while at the store, and inch your way towards a weekly, monthly, and forever diet that is high in whole-grains, vegetables, and low-fat dairy products.<sup>27</sup>

## **The Ineffectiveness of the DASH Diet**

Notice the one suggestion not on this list of good for you foods is the DASH diet. The DASH diet is an eating regiment that individuals are supposed to adopt for their entire lives to keep blood pressure low. Under this particular diet,

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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participants are expected to adopt strict portion controls, eat a variety of different foods, and focus on reducing sodium in your diet.<sup>44</sup> This diet is also designed to consume a number of the vitamins and minerals we have discussed to lower blood pressure and avoid hypertension.

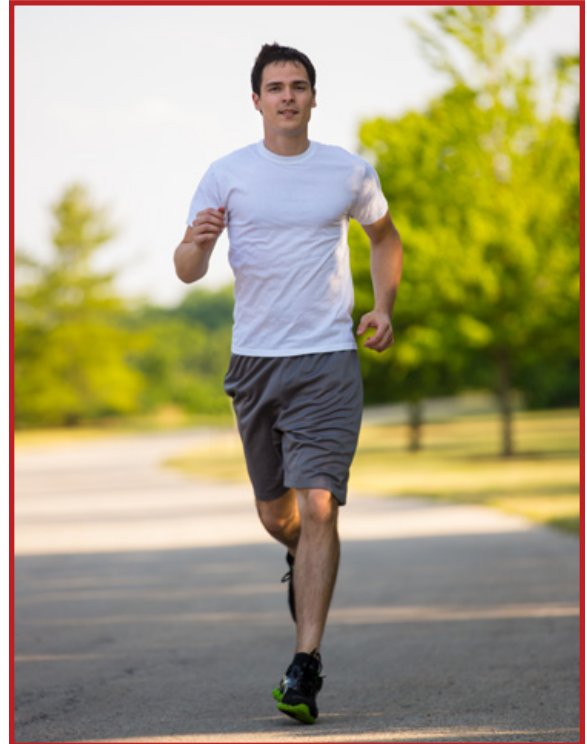
Therefore, you might be wondering why it doesn't work as well as some people claim. It is not because the diet is unhealthy or wrong for lowering blood pressure. However, people who participate in the DASH diet tend to believe it is the only change they need to make to avoid high blood pressure. These people ignore exercise, sleep habits, do not try to lower stress, or incorporate other healthy choices into their day. There is a misguided belief that a diet can overcome all other activities and choices that can raise blood pressure.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

## **Chapter #5: Exercise**

Let's face it, in general exercise is a great way to keep the body healthy. Across the board an active lifestyle is a healthy life, and the inverse is also true. When humans become too sedentary in their daily life or habits, wellness drops significantly.

We should all strive to be the 85-year old that climbs a mountain or 76-year old that runs a marathon. Yet, when it comes to blood pressure these drastic feats of physical fitness are not necessary to keep your levels in check and healthy. Instead, aim for regular exercise that is manageable on a regular and long-term basis.



### **How All Exercise Improves High Blood Pressure**

One of the biggest issues with high blood pressure is the symptoms can be difficult to see or understand. This is most obvious when considered within the context of working out and exercise. High blood pressure is not going to give you chest pains nor will it cause heavy breathing in an otherwise fit individual.<sup>32</sup> Instead, high blood pressure is a far more subtle condition, but it has serious consequences for health and wellness.

Despite the symptoms and signs of high blood pressure being unobvious during exercise, it is still one way to fight high blood pressure. A more active lifestyle and regular exercise will strengthen the heart, which means your heart is doing less work to move the same amount of blood through the body.<sup>33</sup> In turn, there is less pressure

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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on your arteries and the result is a drop in blood pressure. Exercise and consistent movement can be even more beneficial for people who are overweight or obese, even if the exercise does not lead to weight loss.<sup>32</sup> It typically takes a few months for the effects of regular exercise to register on your blood pressure reading, but give it three or four months and your doctor or nurse will notice a difference.

Specifically and scientifically, the benefits of exercise are to your systolic pressure. As you may remember, this is the highest point your blood pressure reaches and represented by the first number in a blood pressure reading. It is also this number that gives doctors the most concern for people to develop hypertension. Therefore, lowering the systolic pressure by an average four to nine mm Hg (the average amount exercise is shown to lower blood pressure in certain studies) is a very big deal.<sup>33</sup>

In addition to scientific evidence that going from a sedentary lifestyle to an active lifestyle can lower high blood pressure, research has also determined that regular exercise over the course of a lifetime can keep blood pressure lower.<sup>33</sup> This means an individual, who has genetic predisposition or other condition that may lead to hypertension, could prevent or decrease the likelihood of high blood pressure through regular exercise.

Lastly, exercise has been shown to reduce stress.<sup>32</sup> When energy, worry, and anxiety are channeled into physical activity, it seems to lower chronic and temporary stress. This provides a second way that exercise may reduce or keep blood pressure low for certain active individuals. However, it is important to remember that the blood pressure benefits of an active lifestyle will only last as long as the exercise does.<sup>33</sup>

## **How Much Exercise Is Needed**

The research indicates that it is not necessary to climb a mountain to lower your blood pressure. Yes, the more physically fit an individual, the less likely that person



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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is to develop high blood pressure. However, if you are fighting prehypertension or blood pressure that is rising due to age, then even a little exercise could mean better results at your next doctor's appointment. In general, doctors say two and a half hours of exercise per week can lower blood pressure.<sup>32</sup> Other studies provide a more vague indication that moderate exercise will do the trick.<sup>33</sup>

There are two ways to facilitate a more active lifestyle. The first is by choosing to participate in exercise at a gym, class, or on your own time. The second way is by adjusting your routine to allow for more movement. When it comes to an exercise regimen, aerobic activity is best for lowering blood pressure.<sup>33</sup> These are exercises such as swimming, jogging, tennis, and cycling. Each of these activities burns calories and builds muscle by increasing the heart rate. As previously stated, the heart is then stronger and better at pumping blood.

Alternatively, many individuals find that it can be difficult or disheartening to incorporate these activities right away, particularly if one's previous lifestyle was far less active. For these individuals, small changes can make a big difference. Park the car farther from the grocery stores, take the stairs over elevator, walk to the mailbox, these are all simple suggestions that can actually increase the amount of activity someone does in a day.<sup>32</sup> Soon, these small changes will be unnoticeable as you go through daily life.

## **Specific Exercises to Lower Blood Pressure**

Once the mindset is right for a more active lifestyle, it is necessary to incorporate some dedicated time and effort to exercise. For many people the path to an exercise regimen begins with walking. Walking will increase the heart rate, just as more demanding activities and can be done almost anywhere.<sup>32</sup> It is a great way to experience the outdoors and can be enjoyable for a short or long period of time. This makes it a great exercise for starting small and constantly increasing distance as your stamina increases. As you walk farther and faster, it is likely you will see a corresponding drop in your blood pressure.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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For individuals who are looking to incorporate exercises for blood pressure into an existing workout routine, there are workouts that are particularly effective for lowering blood pressure. Aerobic activity is best, as these exercises help strengthen the heart and improve cardiovascular strength. Some aerobic exercises to include in your weekly workout schedule are jogging, rowing, swimming, dancing, or fast-paced sports like tennis and basketball.<sup>33</sup>

In addition to these aerobic activities, weight lifting can also help lower blood pressure. A number of people actually experience an increase in their blood pressure when doing bench presses, leg lifts, and other weight lifting exercises. However, studies show that over time this form of exercise does reduce the risk of hypertension. You might be wondering how.

The answer is these spikes in blood pressure improve cardiovascular health, which in turn lowers blood pressure in the long-term.<sup>34</sup> In particular adding lightweights with more reps to your workout, such as triceps pushes, deltoid squeezes, and right-angle bicep curls, a couple days a week will lower the risk of hypertension as you age.

## **The Effects of Yoga**

Another great form of exercise for lowering blood pressure is yoga. As discussed in earlier chapters, stress can be a major cause of hypertension, and yoga is a great exercise for reducing stress. Sometimes yoga is not the most physically demanding exercise, in terms of cardiovascular fitness, but it strengthens core muscles, stretches points in the body where stress hibernates and builds, and assists muscles and mind with relaxation.<sup>5</sup>

In most instances, yoga is performed as a series of poses. These poses correspond to breathing and mindfulness. Experienced yoga practitioners describe it as a moving meditation. This combination of breath and movement also slows the heart and alleviates pressure on the nervous system.<sup>5</sup> Which are

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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two more great physical ways to try and lower blood pressure.

According to yoga instructors, and backed by researched on stress release, there are certain yoga poses that are more beneficial than others. For instance, a headstand, where the feet and legs are extended above the heart is a pose that individuals with high blood pressure should avoid, but a forward fold, when done properly, can be beneficial.<sup>5</sup> It is worthwhile to invest in a series of yoga classes or studio membership if you plan to practice on a regular basis.

If yoga is not your speed, it is worthwhile to incorporate other breathing and meditation techniques into your daily schedule. With yoga, it is easy to discover the 15 Minute Heart Cure, which is a set of breathing and visualization exercises designed to lower your heart rate, calm your thoughts, lower your stress levels and reduce your high blood pressure naturally.

# HEALTHY BLOOD PRESSURE PROTOCOL

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## Chapter #6: Supplements

Physicians and nutritionists are quick to point out that the majority of healthy vitamins, minerals, and other nutrients should come directly from food products.<sup>34</sup> This is a way to ensure that an individual's diet is healthy and well rounded, and from food substances is obviously the most natural way to consume these necessary vitamins, minerals, and nutrients.

Yet, for some people consumption of food alone falls short. In this chapter you'll learn simple tricks to lower your blood pressure that takes seconds per day and involve supplements to other lifestyle choices. These individuals could be deficient in a particular vitamin or mineral, and they may require supplements to replenish. For other people, another health condition means they need additional vitamins and minerals. In these instances, among others, supplements in the form of pills, powders, and shakes can be helpful additions to the diet.<sup>34</sup>

The addition of supplements to a diet can be just as the name suggests, supplemental. This includes adding these pills, powders, and other substances to a daily routine even if you are on medications for high blood pressure. Adding a natural remedy to the mix can be a good way to balance out prescriptions and other non-natural medications we consume at a doctor's orders.

### Taking Supplements as Pills or Powders

When it comes to supplements, physicians and nutritionists have gone beyond the typical pills and powders on the market as daily additives. Instead, the recommendations are specific to individuals and new research regarding foods and nutrients helpful for lowering blood pressure. One example of a supplement based on recent findings is



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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adding blueberry powered to a daily diet.<sup>29</sup>

A Florida study revealed that blood pressure in women might be lowered by daily consumption of blueberries. However, eating this same fruit every day could be expensive and inconvenient. A valid alternative is a blueberry supplement in powder form.<sup>29</sup> Of course, it is not blueberries themselves that are causing blood pressure to drop, but the specific nutrients and vitamins in blueberries, therefore other supplements are believed to be a potential remedy to high blood pressure.

Another example of a supplement made to mimic the effect of eating a single food daily is omega-3 fatty acids. Cold-water fish such as salmon, kill, and squid all contain a lot of omega-3s, and a number of people with high blood pressure try to include these foods in a daily diet.<sup>35</sup> However, most American diets lack omega-3s. For this reason it is provided as a supplement in pill form, and people with high blood pressure can benefit from adding more omega-3s to their diet.

A number of people are consuming a similar supplement, fish oil. Fish oil has been shown to lower blood pressure, similar to taking omega-3 supplements. This is because in a number of ways these supplements are the same and offer the same active ingredients. Fish oil is derived from the skin of oily, fatty fish such as salmon albacore tuna, and even sharks. For a number of people it is perfectly healthy to eat the meat and tissue of these fish, but other people could be at risk of toxic substances in these fish or mercury poisoning. Taking fish oil as a supplement could eliminate these risks and provide the same access to omega-3 fatty acids. Even a small amount of fish oil has been shown to improve blood pressure when consumer over a period of time.

Lastly, coenzyme Q10 has been shown to lower blood pressure.<sup>34</sup> It is also known as CoQ10 by the medical and nutrition community. This less widely known nutrient helps people turn food into energy. To accomplish this incredibly important purpose coenzyme Q10 can be found in nearly every cell in the human body.<sup>36</sup>

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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Several studies have shown that CoQ10 can lower blood pressure. This makes it a great nutrient to consume as a supplement to a healthy diet, particularly if closely monitoring your nutrition is not making a massive difference in your blood pressure. In some studies, supplements of CoQ10 lowered blood pressure by 17 mm Hg.<sup>36</sup> Alongside other healthy lifestyle choices that is enough to keep a person from developing hypertension, even at an older age.

## **Miracle Pill for High Blood Pressure**

If you have been taking medication for years, made changes to your diet and lifestyle, and you are still suffering from high blood pressure, it is time to incorporate other changes into your life. The “Miracle Vitamin” that can drastically reduce your chance of developing Metabolic Syndrome, cancer and of course, hypertension should be one of those changes.



Doctors have identified a number of vitamins and minerals that should be present in a Miracle Vitamin. These include, fiber, folic acid, nitric oxide and the two nutrients already discussed, omega-3 fatty acids and coenzyme Q10.<sup>36</sup> This combination of vitamins and nutrients helps fight a number of underlying causes of hypertension and high blood pressure.

For example, fiber has been shown to reduce systolic and diastolic blood pressure.<sup>37</sup> Meanwhile, different studies indicate that folic acid, which is a B vitamin found in leafy greens, reduces the risk of stroke.<sup>38</sup> While stroke and high blood pressure may seem like two different things, strokes are one of the most common results of living with high blood pressure for too long. Therefore, eliminate some risk of stroke and you can eliminate the risk that high blood pressure will be fatal.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **Natural Supplements for Lower Blood Pressure**

In addition to supplements that are meant to mimic the vitamins and minerals found in common food substances, other natural supplements can lower high blood pressure. If you ever wondered why a 1000mg of a special leaf extract can significantly reduce your LDL (bad cholesterol) and hypertension at the same time...and we'll show where to get your own supply for pennies on the dollar.

Olive leaf is a very special type of leaf indeed. For centuries, perhaps longer, cultures have utilized the olive leaf for medicinal and supplemental purposes.<sup>39</sup> The most discussed study involving olive leaf extract looked at sets of twins with hypertension or prehypertension. One twin was given olive leaf extract, different twins were given differing amounts of olive extract each day, while the other was given a placebo.

The result? Those who consumed the most olive leaf extract over the course of the study had the most dramatic drop in blood pressure.<sup>39</sup> This particular study only lasted eight weeks, but it is good reason to believe that the long-term consumption of olive leaf could lower blood pressure. Just another way this powerful leaf is being used for beneficial purposes.

If you want a different natural supplement for lowering high blood pressure, consider adding a grape seed supplements to your diet. There is evidence that individuals who consumed a specific grape seed supplement called MegaNatural BP are more likely to lower blood pressure than individuals who do not include this supplement in their diet.<sup>35</sup> The research suggests that 300 milligrams of this grape seed extract a day is an ideal amount, and that consumption over months or years will ensure the benefits continue.

Finally, a traditional Chinese medicine is making a comeback as a supplement to ward off hypertension. This remedy is known as Balance<sup>3</sup>. It is a combination of a few natural substances, including all-heal flower, chrysanthemum flower,



# HEALTHY **BLOOD PRESSURE** PROTOCOL

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honeysuckle flower, notoginseng root, water fairy flower, shiitake mushroom, and pagoda tree flower.<sup>35</sup> These herbs are thought to improve cardiovascular health when consumed individually, which makes Balance<sup>3</sup> an even better choice as a natural supplement. It combines each of these herbs into a single pill that is easy to take, but provides vast improvements in heart and blood pressure health.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

## **Chapter #7: Men vs. Women**

As the research around high blood pressure became more specific and in depth, doctors and scientists began to realize there were considerable differences between men and women when it came to diagnosis and even treatment of hypertension. These differences highlight some of the biological and anatomical differences in the genders.



One interesting distinction between hypertension in men and hypertension in women is that it seems to affect the genders at differing points in life. When looked at side-by-side, men are far more likely to develop hypertension and cardiovascular disease than premenopausal women of the same age and fitness level.<sup>40</sup> The disparity in diagnosis and amount of men with hypertension begins at puberty, and will persist through most of the adult life cycle.<sup>40</sup> This is supported by scientific studies and the diagnosis of men and women with hypertension.

A number of studies have looked at the blood pressure in men and women as they age and the diagnosis of high blood pressure. Many have used a technique that monitors the 24-hour ambulatory blood pressure in men and women, to determine a close comparison over the course of an entire day.<sup>43</sup> It was noted by each of these studies that as men and women aged, the likelihood of hypertension increased for both genders. However, one study found that men had a higher 24-hour mean blood pressure until the participants reached age 79. Another study determined that overall blood pressure for men was consistently higher for adults aged 50 – 60.<sup>40</sup>

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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Outside of these controlled studies, men are also more likely to have higher blood pressure. By age 45 there are more men diagnosed with hypertension than women.<sup>10</sup> As well, more men between ages 45 and 65 are on blood pressure medication or specific diets to treat high blood pressure.

## **High Blood Pressure and Hormones**

The reason for higher blood pressure in men could be related to androgens, which are the male sex hormones.<sup>41</sup> Scientists have looked at the relation between androgens and hypertension in humans and animals. What the research shows is that animals who are given testosterone or other androgen treatments are more likely have a spike in blood pressure. This mirrors the effect androgens seem to be having on adult male humans.

However, in an interesting twist on this research, studies have noted that men with hypertension or other cardiovascular disease tend to experience a drop in testosterone over time. Certain scientists feel this shows that the drop in testosterone augments or worsens the severity of the disease, when previous research shows this should have the opposite effect.<sup>41</sup>

In furtherance of an argument that hormones could have an effect on blood pressure, research has found that women who take birth control pills are much more likely to have high blood pressure.<sup>42</sup> Birth control pills use alternations in hormonal levels to prevent pregnancy. If these hormonal changes are causing women to have higher blood pressure, it is likely indication that testosterone, estrogen, and potentially androgens are playing an important role in blood pressure.

## **The Effect of Menopause**

Men and women differ in another way when it comes to blood pressure. Women develop high blood pressure later in life than men. It is a curious reversal in

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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amount and timing of diagnosis because it is common practice for men and women to have their blood pressure taken on a regular basis. Therefore, doctors have definitive proof that women are developing hypertension later than men but in greater numbers.

The determination by a number of health professionals is that menopause can have a huge effect on blood pressure. Studies that consider women before and after this biological process have found that after menopause, the likelihood that a woman has or will develop high blood pressure goes up considerably. This is documented by actual diagnosis, and when people hit 65 women are much more likely to have hypertension than men.<sup>10</sup> In fact, African American women over the age of 65 are the most likely group in the United States to suffer from hypertension, based on percentage of the population that has been diagnosed with high blood pressure.<sup>42</sup>

The effect of menopause on cases of hypertension provides further evidence that androgens and estrogen have an effect on blood pressure and that change in these hormones can alter blood pressure levels. During menopause estrogen levels in women will drop. This means androgens, such as testosterone, have a more noticeable presence and greater impact on the body. This drop in estrogen coincides with the rise of hypertension in women.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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## **Conclusion:**

There is still a lot doctors and scientists need to learn about blood pressure. The theories regarding hypertension, its causes and remedies, are still new in the world of medical research, and studies are continuously providing new information. As the scientific world tests these hypotheses, doctors are adjusting recommendations and presenting potential remedies to patients.

This lack of certainty regarding hypertension and remedies to high blood pressure could leave an individual wondering whether lifestyle choices, changes to diet, or lowering stress will make a difference for blood pressure down the road. The answer is a resounding yes! A healthy lifestyle and including positive diet and exercise routines into your life can only lead to better blood pressure and it will also lower the risk of other health conditions, such as cardiovascular diseases and heart conditions.

High blood pressure is a serious and life threatening health condition. If you have high blood pressure, it should be your goal to naturally lower it. However, older age is one of the main risk factors for high blood pressure, which is inevitable. Therefore, even if your blood pressure is now normal, it is worthwhile to live an active and thoughtful life to keep stay blood pressure healthy.

# HEALTHY **BLOOD PRESSURE** PROTOCOL

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# HEALTHY **BLOOD PRESSURE** PROTOCOL

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# HEALTHY **BLOOD PRESSURE** PROTOCOL

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