Report

Reduce Blood Pressure—Naturally
What Americans Can Learn from Traditional Cultures about Managing Hypertension

By William Davis, MD

High blood pressure is a pervasive and devastating health threat to the aging population. If you’re an American adult, the chances you suffer from it are 1 in 3. If you’re over 60, that number rises to 1 in 2.1 There’s also a good chance you don’t know you have it. Approximately 30% of aging individuals remain unaware they suffer from hypertension.2 It is often called the “silent killer” for this reason—chronic high blood pressure is a reliable risk factor for heart attacks, heart failure, strokes, aneurysms, and kidney failure.3 Even modest increases in blood pressure can have serious consequences: every 20/10 mmHg increment over 115/75 mmHg doubles your risk of cardiovascular disease.4

In conventional medicine, the most your doctor might do to help you correct hypertension is tell you to lose weight, cut your salt intake, and follow a diet program like DASH (Dietary Approaches to Stop Hypertension). Prescription drugs typically follow. A DASH approach of avoiding salty and fried foods, and eating more nuts, vegetables, and fruits can indeed reduce blood pressure modestly (5.5 mmHg systolic, 3.0 mmHg diastolic, compared to a control diet similar to a standard American diet).5

What your doctor won’t tell you is that while hypertension tends to rise with age in our culture, it is not necessarily an inherent part of the aging process. On the contrary: our knowledge of the relationship between diet and health in other cultures offers compelling evidence that high blood pressure can often be controlled without drugs.

This article describes how my patients have been able to attain optimal blood pressure with a few simple changes in how they eat, how they live, and the nutrients they ingest.

AN “INEVITABLE” HEALTH PROBLEM?

Why are traditional cultures spared from high blood pressure while modern Americans suffer from epidemic high blood pressure—almost inevitably?

The current guidelines for hypertension management are detailed in the Seventh Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), last updated in 2003. In JNC 7, normal blood pressure is defined as less than 120/80 mmHg; pre-hypertension is classified as between 120-139/80-89 mmHg. High blood pressure is classified as stage I (140-159/90-99 mmHg) or stage II (greater than 160/100 mmHg).4

Yet the Yanomamo and Xingu Indians of Brazil, rural Kenyans and natives of Papua, New Guinea, have blood pressures that typically average 103/63 mmHg! Even with aging, members of these cultures fail to develop the “expected” age-related increase in blood pressure that we are so accustomed to seeing.

Early studies exploring the reasons why traditional peoples have lower blood pressure focused principally on sodium/salt intake. But factors beyond salt have emerged, including higher potassium intake, less alcohol intake, and especially lower body weight.2,3 We can also safely extrapolate that people like the Yanomamo don’t eat chips, crackers, fruit drinks, or the thousands of other processed foods that we consume in excess. Are there lessons to be learned from traditional cultures that might help us avoid the otherwise inevitable high blood pressure that we experience in the modern world?

FOUR NUTRITIONAL APPROACHES

http://www.lef.org/
Nutrition plays a critical role in determining blood pressure. In traditional societies, the inclusion of abundant plant-sourced foods and wild game, along with exclusion of processed foods and food additives like high-fructose corn syrup, confer extraordinary lifelong protection from hypertension. This diet is a far cry from the misguided low-fat notions that are partly responsible for the American obesity and diabetes crisis. While the low-fat theme dominated American nutritional advice in the past, focusing only on restricting the quantity of fat intake may be detrimental. Rather, it may be more important to focus on the types of fats in the diet. For instance, it is crucial to replace saturated and hydrogenated fats with unsaturated and omega-3 fats in order to help reduce heart disease risk.  

Over the past 50 years, the American food industry has created a destructive and extraordinarily far-reaching array of industrial foods. The average American diet of processed carbohydrates like breakfast cereals and breads (all low-fat), trans/hydrogenated fatty acids, high-fructose corn syrup, and overly-sugared foods is a guaranteed path towards high blood pressure, not to mention cholesterol distortions, increased inflammatory responses, and obesity.  

While the DASH diet achieves a reduction of several mmHg in blood pressure, you can take the diet several steps further for greater benefit. One potent means of reducing blood pressure is to mimic the lifestyle of traditional cultures and eliminate modern industrial foods that contribute to hypertension, while increasing the foods that reduce blood pressure. Since hunting wild game or foraging for cassava root and wild berries is not an option for most people, the goal is to simulate a modern version of a “traditional” lifestyle.  

Such important dietary changes include:  

**Elimination of wheat and cornstarch**  

This strategy, as unexpected as it might be to many people, is probably the most potent strategy we have employed in our heart disease prevention and reversal clinic. It is not uncommon in our clinic to see blood pressure reductions of 20-40 mmHg, along with reduction or elimination of the “need” for blood pressure-reducing medication, not to mention dramatic weight loss, correction of cholesterol distortions (reduction in triglycerides, increased HDL, decreased LDL), and reduced inflammation.  

Wheat is a particular problem in the American diet. A large number of Americans suffer from undiagnosed allergy or sensitivity to wheat. An additional, smaller number suffer from a devastating condition called celiac disease. People with celiac disease experience severe intestinal inflammation and destruction when exposed to gluten (a protein found in wheat and other grains such as rye and barley). Celiac survivors (“survivors” because celiac disease is a potentially fatal illness) who recover from this devastating intestinal illness by eliminating gluten tend to achieve a healthier body mass index than the wheat-consuming public. One study showed that patients with celiac disease who avoid gluten were more slender, since they take in 13-14% fewer calories than the general public (consistent with removal of the appetite-stimulating effect of wheat products). Another study found that wheat avoidance helped patients with celiac disease achieve a healthier weight—those who were underweight gained weight, while those who were overweight lost weight. Celiac patients who avoid gluten also benefit from higher HDL and ApoA1 levels.  

In our experience, elimination or dramatic reduction of wheat (white and whole grain breads, pasta, breakfast cereals, bagels, muffins, pretzels, crackers, pancakes, waffles) and cornstarch (cornmeal, tacos, tortillas, wraps, chips, breakfast cereals, gravies), as well as obvious sugary foods like candies, fruit juices, and fruit drinks, can serve as a powerful cornerstone of a blood pressure-reducing program if an individual has celiac disease or is allergic to wheat.  

Many people are reluctant to follow a wheat-free program, since wheat is so commonplace in the American diet. I often advise skeptical patients to try a 4-week long “experiment”: eliminate wheat, as well as cornstarch and sugars, and see what happens. With rare exceptions, the effects are nothing short of extraordinary.
Elimination of “trans” and hydrogenated fats

The proliferation of “trans” or hydrogenated fats was among the many nutritional mistakes made in the misguided low-fat era. Hydrogenated vegetable shortening, followed by margarines and countless processed foods, increased Americans’ intake of “trans” fats dramatically.\textsuperscript{21} It increased the risk of heart attack, cancer, diabetes, and high blood pressure with it.\textsuperscript{22,23} Elimination of “trans” fats is therefore a crucial step in gaining control over blood pressure.

Eliminate “trans” fats simply by examining the label: if it lists hydrogenated or partially hydrogenated oils, don’t buy it. Even better, buy foods that don’t require a label, like cucumbers and tomatoes.

Elimination of oxidized oils

Oxidation of oils by heating leads to blood pressure-increasing effects, not to mention oxidative changes in cholesterol particles and cancer induction.\textsuperscript{24-26} Polyunsaturated oils, like corn and safflower, are the most susceptible to oxidative degradation and should therefore be minimized.\textsuperscript{26,27} Any heating, especially deep-frying, will oxidize oils. Oils are best consumed unheated, especially polyphenol- and tocotrienol-rich olive and flaxseed oil, since these nutrients are degraded by heat.\textsuperscript{27,28}

Weighing your diet heavily in favor of blood pressure-reducing foods

Weighing your diet in favor of real foods rich in flavonoids and polyphenols, non-wheat fibers, and healthy oils is important for gaining control over blood pressure. It is just as important to choose foods that don’t overstimulate insulin release: processed foods like wheat products, cornstarch-containing products, and sugars.

Chief among foods that help reduce blood pressure are: raw nuts (almonds, walnuts, pecans, Brazil nuts, hazelnuts, pistachios; raw is crucial, since most roasted nuts have been roasted in blood pressure-increasing hydrogenated oils) and seeds (pumpkin, sunflower); vegetables; berries (blueberries, strawberries, cranberries, cherries, blackberries, elderberries); and healthy oils (olive, flaxseed, avocado, coconut).\textsuperscript{29}

NINE SUPPLEMENTS FOR OPTIMAL BLOOD PRESSURE MANAGEMENT

Beyond changing your diet to minimize exposure to foods that increase blood pressure and emphasizing foods that reduce blood pressure, a number of nutritional supplements have been confidently demonstrated to reduce blood pressure. Several supplements, including vitamin D, magnesium, omega-3 fatty acids from fish oil, and anthocyanins, correct inadequate intakes of these nutrients that commonly occur with modern lifestyles. Restoring them allows us to mimic the nutrient intakes of traditional cultures. Other supplements exert unique blood pressure-reducing effects independent of correcting nutritional deficiencies.

VITAMIN D

Blood pressure reduction is one of the many extraordinary health benefits of vitamin D.

People deficient in vitamin D are more likely to have high blood pressure.\textsuperscript{48,49} Vitamin D supplementation, alone or with calcium, can reduce blood pressure in people with hypertension.\textsuperscript{50,51} Vitamin D likely exerts this effect in part by suppressing the expression of the blood pressure hormone renin, similar to the effect of prescription angiotensin-converting enzyme (ACE) inhibitors.\textsuperscript{52}

In our clinic, we dose vitamin D by checking blood levels of 25-hydroxyvitamin D and maintaining this measure between 60-70 ng/mL; the average dose requirement to do so is 6,000 units per day—far more than the now woefully outdated Recommended Adequate Intake for adults over age 50 of 400 IU/day. Because individual requirements vary widely, however, it is advisable to have blood levels checked on occasion to ensure the desired level has been achieved, neither too high nor too low.
Among antioxidants, coenzyme Q10 (CoQ10) stands out for its ability to promote healthy blood pressure levels.

Pooled data from 12 studies (362 participants) revealed an impressive drop of **16.6 mg Hg in systolic pressure**, and an **8.2 mm drop in diastolic pressure** with CoQ10 doses ranging from **30-360 mg** per day.\(^5\)

Recent reports suggest that reducing blood pressure may not be enough to eliminate risk for cardiovascular complications like death and heart attack. Reduction of abnormal heart muscle thickening, or “hypertrophy” (measured by ultrasound), may also be a necessary component of treatment.\(^5\)\(^4\) CoQ10 has been shown to reduce abnormal hypertrophy resulting from high blood pressure.\(^5\)\(^5\)\(^6\) All of this is accomplished with virtually no side effects, given the fact that CoQ10 occurs naturally in the human body.

### THIAZIDE DIURETICS: A FIRST-LINE MISTAKE

Thiazide diuretics, such as **hydrochlorothiazide** and **chlorthalidone**, are first-line drugs usually prescribed to treat hypertension, as advised by the JNC 7.\(^4\) They are inexpensive, have proven efficacy for reducing blood pressure, and physicians are well-acquainted with their use. But are they safe?

First of all, we all recognize the health benefits of good hydration, including restoring energy and cognitive performance, and prevention of blood clotting and kidney stones.\(^6\)-\(^8\)

Then why are *dehydrating* agents like thiazide diuretics prescribed? Diuretics work by reducing the volume of fluid in the body and in blood vessels, thus lowering pressure. (Ask anyone who has taken a diuretic: the loss of fluid (i.e., as urine) can be quite astounding.) But you can’t have both adequate hydration *and* dehydration—you’ve got to pick one or the other.

Thiazide diuretics have a number of undesirable effects, including:

- Reduction of protective high-density lipoprotein (HDL)\(^9\)
- Increased triglycerides\(^10\)
- Increased total cholesterol\(^9\)
- Increased insulin resistance and diabetes risk\(^11\)
- Increased uric acid, which may increase the risk of a gout attack\(^12\)

These are not unexpected side effects that occur in a few; they are expected effects that develop in a substantial proportion.\(^13\)

In one large study, **7.7%** of those taking thiazide-type diuretics developed diabetes over the course of 4 years, compared with only **4.2-4.7%** of patients taking other types of prescription diuretics.\(^14\)

Although thiazides are widely prescribed as the first choice for hypertension, this class of drugs is fraught with a range of significant undesirable side effects.
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FRENCH MARITIME BARK EXTRACT

Numerous studies point to the efficacy of a novel antioxidant compound of proanthocyanidins and bioflavonoids isolated from bark of the French maritime pine that grows along the southern coast of France.

A University of Arizona study documented 50% reduced need for blood pressure medication in diabetic participants taking 125 mg of this compound per day. Interestingly, there was a 23.7 mg/dL drop in blood sugar and 0.8% reduction in hemoglobin A1c (a measure of long-term blood sugar control). Another study demonstrated reduced need for calcium blocker medication in participants given 100 mg per day.

French maritime bark extract exerts its antihypertensive effects by blocking the angiotensin-converting enzyme (ACE)—similar to the mechanism of the prescription ACE inhibitors enalapril and lisinopril—enhancing endothelial (vessel lining) responsiveness, and blocking the effects of adrenaline (epinephrine).

ANTHOCYANINS

Anthocyanins are a class of plant flavonoids that confer the red, purple, and blue color to cranberries, blueberries, eggplant, grapes, red wine, pomegranate, and other similarly colored fruits and vegetables. Anthocyanins are proving to be powerful standouts for health effects among the many thousands of flavonoids and polyphenols identified to date.

A Finnish study of 72 middle-aged subjects examined the effects of consuming two servings of berries daily (alternating schedule of 100 g whole bilberries and a 50 g crushed lingonberry nectar; or black currant or strawberry purée and cold-pressed chokeberry and raspberry juice) compared to a non-berry containing calorie-matched control. Anthocyanins represented the dominant flavonoid at 275 mg of the total polyphenols of 837 mg per day. The berry group experienced a reduction in systolic blood pressure of 7.3 mmHg, along with 5.2% increase in HDL. A study of 50 mL (almost 2 oz) of anthocyanin-rich pomegranate juice reduced blood pressure by about 12%, in addition to reducing carotid intima-media thickness.

Like French maritime bark extract and vitamin D, anthocyanins are natural inhibitors of the angiotensin-converting enzyme that increases blood pressure. The production of the natural and powerful artery-relaxing agent, nitric oxide, is also increased by anthocyanins.

Some of the richest sources of anthocyanins are elderberries, chokeberries, and bilberries, which are difficult to find in the US, but may be obtained as nutritional supplements and extracts.

AN EVERYDAY DIETARY DANGER

What food can cause devastating inflammatory intestinal destruction that, if unrecognized, can lead to disability and death?

Increase blood sugar higher and faster than table sugar?

Trigger autoimmune inflammation in the thyroid?

Create intestinal bloating, cramps, and alternating diarrhea and constipation, often labeled irritable bowel syndrome?

Weaken the muscle controlling food exit from the esophagus to the stomach, resulting in reflux esophagitis (heartburn)?
MAGNESIUM

In addition to magnesium’s capacity to help manage asthma attacks, migraine headaches, eclampsia and pre-eclampsia of pregnancy, heart rhythm disorders, and preserve kidney function, magnesium supplementation has been conclusively shown to reduce blood pressure. Magnesium deficiency contributes an even larger blood pressure-increasing effect in the setting of a modern American diet deficient in magnesium and rich in fructose—a situation that increases inflammation and the potential for metabolic syndrome.

In one recent study, magnesium supplementation reduced systolic blood pressure by 5.6 mmHg and diastolic blood pressure by 2.8 mmHg. People with heart disease may derive even greater effects. A study of 50 participants with advanced heart disease demonstrated a 9.0 mmHg drop in systolic pressure with 500 mg elemental magnesium supplementation, despite serum magnesium levels in the normal range.

The blood pressure-reducing effects of magnesium supplementation may be especially marked in those with low serum magnesium levels. A study of supplementation in diabetic participants starting with low serum magnesium levels demonstrated an astounding 20.4 mmHg drop in systolic blood pressure and an 8.7 mmHg drop in diastolic pressure with 450 mg of elemental magnesium daily.

OMEGA-3 FATTY ACIDS

In addition to the triglyceride- and cardiovascular event-reducing effects of omega-3 fatty acids from fish oil, these fascinating oils also modestly reduce blood pressure. Daily intake of 1,000-3,000 mg of the omega-3 fatty acids EPA and DHA reduces systolic blood pressure by about 2.1 mmHg and diastolic pressure by about 1.6 mmHg. These blood pressure-reducing effects are accomplished via blocking the angiotensin system, promoting arterial relaxation (normalization of endothelial dysfunction),
reduced production of inflammatory mediators, and reduced production of artery constricting factors.  

RESVERATROL

Red wine in modest quantities has been demonstrated to reduce risk for cardiovascular disease. Much attention has focused on the polyphenol resveratrol, originating from red wine and grapes as a principal source of benefits, including potential life-extending effects due to activation of the sirtuin genes.

Resveratrol has been shown to inhibit the angiotensin-converting enzyme as a means to modestly reduce blood pressure, and also restores production of the natural artery-dilating agent, nitric oxide.

ACETYL-L-CARNITINE

In a preliminary study, this amino acid reduced systolic blood pressure 9 mmHg in subjects taking 1,000 mg twice per day. In addition, acetyl-L-carnitine improved insulin responses and reduced blood sugar.

MELATONIN

Because nocturnal hypertension has been associated with increased risk for cardiovascular events, the effect of melatonin on nighttime hypertension has been studied.

In addition to its sleep-enhancing effects, melatonin taken at or before bedtime reduces blood pressure during sleep. One study examined the effects of nightly dosing of 2.5 mg in 16 men; melatonin reduced systolic and diastolic blood pressure during sleep by 6 and 4 mmHg, respectively. Another study of 38 men demonstrated that 2 mg of a controlled-release melatonin preparation reduced systolic pressure by 6 mmHg and diastolic pressure by 3 mmHg during sleep.

SUMMARY

The virtual absence of hypertension in traditional cultures suggests that high blood pressure is, for most of us, a situation we create with modern diet and lifestyle. Reverting back to basic foods, especially reducing or eliminating wheat grains, cornstarch, and sugars, can reduce blood pressure substantially. Select nutrients, many of which restore nutrients that were more readily obtained by traditional eating habits but are lacking in the modern day diet, can also reduce blood pressure. While not everyone starting such a program during adulthood can hope to entirely avoid hypertension, these steps might help minimize the potential of developing this dangerous condition.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

Dr. William Davis campaigns for the cause of heart disease reversal. He practices cardiology in Milwaukee, Wisconsin and is author of the book, Track Your Plaque (iUniverse, Inc., 2004). Dr. Davis can be contacted through www.trackyourplaque.com.

EDITOR’S NOTE

In this article, Dr. Davis has provided us with an abundance of natural methods to lower blood pressure.

As Dr. Davis noted in the introduction, even modest blood pressure readings above 115/75 sharply increase cardiovascular disease risk. Yet conventional doctors are allowing their aging patient’s blood pressure to reach dangerous levels of 140/90 before initiating anti-hypertensive therapy.

In fact, the home page of a pharmaceutical company’s web site (www.diovan.com) defines high blood pressure as 140/90 or higher.

This drug company is acting against its own economic interest by limiting the number of people who are candidates for its anti-hypertensive drug, while disseminating erroneous lethal information to the public.

We urge most Life Extension members to maintain their blood pressure at 115/75 (or lower) using natural methods first. If blood pressure remains stubbornly high, we suggest a safe and effective class of anti-hypertensive drugs be used called angiotensin II receptor antagonists. One of these drugs we have recommended for over a decade is called Cozaar® and it should be taken twice a day to maintain 24-hour control over blood pressure. Another drug in this class called Benicar® claims 24-hour blood
pressure control with once a day dosing.

You should not trust any medication to provide 24-hour blood pressure control. If you are prescribed Benicar® or any other anti-hypertensive, use an **at-home** blood pressure monitoring device to make sure the drug is providing all-day control of blood pressure at the optimal range of **115/75** or lower. A major error in using anti-hypertensive drugs is that they wear off later in the day allowing blood pressure to spike to dangerously high levels.

**You can obtain reliable at-home blood pressure monitors at your local pharmacy, or you can order one by phone by calling 1-800-544-4440.**

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