



Article 25*

The Non-Medicated Life: Preventing and Treating High Blood Pressure, Part Two

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This is the 25th in a series on optimal diet and lifestyle to help prevent disease and responsibly avoid an over reliance on medications. This complementary approach is based in the medical evidence of the most successful research trials and the best science available. Any planned change in diet, exercise or treatment should be discussed with and approved by your personal physician before implementation. Consultation with a registered dietitian is strongly advised.

Medicines are a mainstay of American life and the healthcare system not only because they are perceived to work by the individual taking them, but also because their benefit may be shown by the objective assessment of scientific study. Clinical research trials have shown that some of the medicines of Western science may reduce the risk of heart attacks, strokes and cardiovascular death.

In the first 24 installments of The Non-Medicated Life, informed diet and lifestyle have been shown to accomplish naturally for the majority of individuals, many, if not most of the benefits of medications. This is especially true for the management of high blood pressure or hypertension.

Diet, exercise and lifestyle have an important place in the prevention of hypertension. However, even for those with hypertension, especially those with early hypertension, non-medicated interventions may reduce or even obviate the need for medications. The non-medicated approaches to hypertension include dietary changes, lifestyle changes such as increased exercise and weight management, and supplements. Preventing and Treating High Blood Pressure, Part One defined hypertension and began to address dietary approaches. Part Two will now address the remainder. Please bear in mind, as is true with most prevention strategies, the earlier the intervention the better.

Additionally, all dietary and exercise changes should be first discussed with one's personal physician before implementation.

We began Part One by addressing dietary approaches including sodium restriction to fewer than 2,000 milligrams per day or a diet called the DASH (Dietary Approaches to Stop Hypertension) combination diet. In a randomized clinical trial, the DASH combination diet has been shown to lower the systolic blood pressure by 11.4 millimeters of mercury (mmHg) and the diastolic by 5.5 mmHg. When low sodium in combination with the DASH diet was studied, the systolic pressure was reduced by 11.5 mmHg and the diastolic by 7.1 mmHg.

This reduction rivals that seen with some anti-hypertension medications. Interestingly, a reduction in blood pressure was also seen in those without hypertension. This may be especially important for preventing high blood pressure. It has been suggested that high blood pressure may occur more commonly in those individuals who consume a diet much higher in sodium over a number of years.

Sodium Restriction – Sodium reduction may also enhance an individual's response to medication so as to preclude the need for additional medication. For example, when using diuretic drugs, so called water pills, modest
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sodium restriction will significantly lower blood pressure further while diminishing the degree of potassium depletion sometimes observed with diuretics. When used with drugs in a class called ACE inhibitors modest sodium restriction will also further enhance blood pressure lowering and may obviate the need for additional medication or higher doses of medication.

Restriction of excess alcohol intake – In those who have high blood pressure, restriction of excess alcohol intake may also significantly reduce blood pressure. Patients who consume more than two drinks per day have been shown to have twice the incidence of high blood pressure compared to non-drinkers. This effect is increased by the number of drinks per day over two consumed. In such individuals, abstinence may result in a fall in blood pressure by as much as 20.0 mmHg in the systolic and 7.0 mmHg in the diastolic.

Smoking cessation and caffeine restriction – While both smoking and caffeine consumption may abruptly raise the blood pressure by as much as 10.0 mmHg, the effect is transient and neither is associated with an increased incidence of high blood pressure. However, in individuals with mild hypertension, 24-hour automated ambulatory blood pressure monitoring has shown that the combination of smoking and caffeine consumption may increase mean systolic blood pressure by 6.0 mmHg. In such individuals, smoking cessation and/or caffeine restriction may help lower blood pressure.

Weight reduction – Lifestyle changes such as weight reduction may also significantly lower blood pressure. In one randomized clinical trial, the loss of ten-percent of body weight was associated with a 4.3 mmHg lowering of the systolic pressure and a 3.8 mmHg lowering of diastolic pressure. In another comparison of 25 randomized clinical trials made up of 5,000 participants, a 2.2-pound weight reduction was associated with a 1.0 mmHg lowering of both systolic and diastolic blood pressure. Importantly, the decrease in blood pressure seen with weight reduction is independent of race or sex and appears additive to the reductions

seen with other non-medicated interventions such as sodium restriction, exercise and alcohol restriction.

Regular aerobic exercise – In patients with hypertension, regular aerobic exercise has been shown to lower the blood pressure by 5.0 to 15.0 mmHg. In a comparison of multiple randomized controlled clinical trials, regular aerobic exercise reduced blood pressure a mean of 6.0 mmHg in the systolic and 3.0 mmHg in the diastolic pressure. Resistance training or isometric exercise has not been shown to result in similar reductions, and it may acutely raise blood pressure to dangerous levels, so it is not generally recommended to those with hypertension. Individuals with high blood pressure considering resistance training should consult their personal physician before implementation.

Supplements – Finally, supplements may also have a place, albeit a lesser one, in the treatment of high blood pressure. Omega-3 fish oil in large doses may reduce blood pressure by up to 6.0 mmHg in the systolic and 4.0 mmHg in the diastolic. In an analysis of multiple studies of lower dose fish oil (approximately 3.7 grams per day), systolic and diastolic blood pressures were reduced by 2.1 and 1.6 mmHg respectively. Fish oil in doses above 2.0 grams per day may thin blood and cause bleeding in some individuals. The use of fish oil to treat blood pressure should only be attempted with the supervision of your personal physician who may assess your risk and benefit.

While the effect of any one dietary or lifestyle change may not be able to treat high blood pressure by itself, the combination many times may. Sodium restriction, alcohol moderation, DASH diet implementation, modest weight reduction, and daily aerobic exercise may decrease systolic blood pressure and diastolic blood pressure by an amount equal to single drug treatment.

In those people who would otherwise need multiple drugs to treat their high blood pressure,
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such dietary and lifestyle changes may obviate the need for additional medication and the added cost as well as side effects. This being said, it is important to bear in mind that while blood pressure control is the goal of both pharmacological and non-pharmacological treatment, discontinuation of medication should be accomplished only under your personal physician's close follow up and care.

In summary, diet and lifestyle may be used to avoid or prevent high blood pressure. They may also under a physician's care be used to treat high blood pressure and to reduce the amount or number of blood pressure medications used. As such, diet and lifestyle may be seen as effective alternatives to the proverbial bottle of pills to treat this important health care problem.

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