



Article by **Mary Ann Wallace, MD, MA**

## Hypertension

### What does hypertension mean?

Hypertension is also known as high blood pressure. Blood pressure, itself, is a function of the volume of blood in the system relative to the size and capacity of the blood vessels through which it passes. It is measured with a sphygmomanometer and is expressed in terms of a systolic and diastolic number with the systolic number representing the peak pressure, and the diastolic the lowest pressure in the arteries at the time of measure. These numbers correspond to the systole and diastole of the heartbeat.

Although somewhat arbitrary, physicians have identified a “normal range” of blood pressure for humans based on secondary effects of the pressure being either too high or too low, outside of this range. An “ideal” blood pressure is considered to be less than 130/85, with the value for low blood pressure a matter of debate among clinicians and scientists. It should be said that the optimal blood pressure may be different from person to person as well, and is dependent on many other factors as well.

### What causes hypertension?

The vast majority of cases of high blood pressure are considered “essential hypertension” which essentially means nobody knows what causes it. A number of contributing factors have been outlined, to include heredity, environmental factors such as smoking, salt intake, obesity, occupation, alcohol intake, family size and crowding. Any and all of these factors, however bear only loosely on hypertension and are seldom seen to contribute the whole of the situation. Abnormal levels of renin, (an enzyme secreted by the kidney), may be a contributing factor in some cases as well, and may be worth evaluating in situations in which hypertension is difficult to control.

### Why do we care about it?

The end result of chronic high blood pressure is deterioration of the organs affected by it. The most common malady is an enlarged heart, since the muscle of the heart has to work overtime to compensate for the increased pressure against which it must pump blood throughout the body. Other effects of hypertension include the breakdown of the smaller end vessels under the duress of the pressure. Included in these is the retinal vessels (the blood vessels in the eye), leading to blurred vision or even blindness, and the vessels in kidney, resulting in renal failure. Central nervous system effects include headaches, dizziness and strokes.

Age, race, sex, smoking, alcohol intake, serum cholesterol, glucose intolerance and weight may all alter the outcome of hypertension

### What can we do about it?

Although we don't know for certain what causes hypertension, there are a number of factors that seem to play a contributing role that are worth adjusting where possible.

### **Dietary:**

Reducing salt consumption, lowering fats, especially saturated fats in the diet, avoiding caffeine and eliminating food allergens (which can make hypertension worse) are all good first steps. Consider supplementing the diet with magnesium, which may help dilate blood vessels. Increasing potassium and calcium intakes have shown a reduction of blood pressure roughly equivalent to reducing salt intake. B complex may increase resistance to stress and help to lower related blood pressure. Calorie reduction and subsequent weight loss will reduce the blood pressure in a good number of patients and is sometimes the only therapy needed.

The end results of hypertension can be altered by following steps aimed at reducing the impact of the high blood pressure, if it is there. Eliminating smoking and reducing alcohol and sugar intake are basic first steps. Increasing consumption of dietary fiber, vegetables and vegetable proteins and essential fatty acids (cold-water fish, nuts and seeds) reduces the damage caused by high blood pressure. Coenzyme Q10 helps to reduce free radicals which can be damaging to blood vessel walls.

In addition, homeopathy and/or herbs may provide a supportive role in both lowering blood pressure and reducing the end results. Hawthorn, both as tea and a dried extract has shown some efficacy for relaxing and strengthening the cardiovascular system.

### **Adjunctive therapies:**

Exercise, acupuncture, massage, yoga and meditation have all shown some effectiveness in both lowering blood pressure in some situations and lowering stress, which may also help to reduce blood pressure.

Exercise helps not only control weight, but may lower arterial pressure. Isotonic (jogging, walking swimming) exercises seem to be more effective than isometric (weight lifting). Yoga has demonstrated effects in stress reduction as well as overall conditioning. Meditation may serve the function of not only lowering blood pressure, but provides a means whereby a person might gain insight into the general stressors of her or his life. As an overarching statement, this may serve the person in an overall way.

### **How can we use hypertension to learn about ourselves?**

While in meditation, enter a restful, curious state. Inquire of yourself what is in your life which causes you to experience pressure or tension. Pay particular attention to beliefs you hold which pit you against yourself or ways in which you think you should be different than you are. Also notice ways you think the world should be different than it is.

As much as you can, give permission for all to be going at its own proper pace. Allow some space around the tension you experience. Breathe deeply and accept the healing power of peace within you.

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