## Addressing The Causes of Hypertension Naturally Written by David G. Schwartz, M.D. 05/13/2014

Anyone with average blood pressure above 110/70 or even "white coat" hypertension has some degree of dysfunction of the blood vessels (vascular disease) that raises the risk of heart attack, stroke, and blocked arteries from plaque, even if the blood pressure is controlled by drugs. Controlling the BP by natural means reduces those risks better than drugs do. People with normal BP can also have vascular disease, which can be present years before HBP (High Blood Pressure) occurs. This means that it is very important to check and monitor the vascular system, not just the BP. The key to this is the endothelium, the inner lining of the arteries that control tone and flexibility and protect the arteries from toxins and injuries coming from the blood. Improving endothelial function helps the vascular system to heal. Drugs to control the BP can keep the pressure from causing even more damage and making a vicious cycle of injury causing higher BP and more injury; however, the drugs may not heal the endothelial dysfunction that drives the BP. Natural methods can improve the endothelial function.

Family members of people with hypertension should have the vascular system checked, even if they do not (yet) have HBP. Improving the health of their arteries by natural means could reduce the chance of developing HBP and the risks of cardiovascular events such as strokes, heart attacks, and death.

The following tests help to evaluate the degree of cardiovascular disease present or at risk:

Measure waist circumference, waist/hip ratio, and BMI.

Check teeth and gums for inflammation.

Urine test for microalbumin/creatinine ratio.

Blood tests – HS-CRP (High-sensitivity C-Reactive Protein), homocysteine, fibrinogen, Vitamin D level, fasting glucose and insulin, Hemoglobin A1c, lipoprotein particle size and numbers (more useful than lipid panel, cholesterol, etc.), gluten sensitivity test (Array 3 by Cyrex Lab is the most thorough test), test for auto-antibodies (Cyrex Array 5), test of red blood cells for omega 3 fats, and cardiovascular genetic tests.

Non-invasive mechanical tests:

24 hour ambulatory blood pressure monitoring (ABM)
Electrocardiogram
Heart rate variability test
2d Echocardiogram
EndoPat (Endothelial Peripheral Arterial Tone)
Carotid IMT (Intima-media thickness) Doppler/Ultrasound
Ankle Brachial Index
Coronary Calcium Score by low-dose CT scan

The purpose of doing these tests, especially for people who do not have symptoms is not to create worry and a sense of illness when there is none, to result in invasive tests, surgical procedures, and toxic drug regimens, but rather to assess dysfunction that can be improved by natural means in order to reduce risk.

If the tests are too expensive and not covered by insurance, a person could just assume high risk and do all the nutritional and lifestyle measures, then one would not know how aggressive to be in diet, supplements, etc., and would not have any way of measuring whether the interventions were making a difference or not. The efforts would likely diminish with no specific incentive. So, at least some of these tests should be considered, if not the whole list. At the bare minimum, the blood and urine tests, the EKG, ambulatory BP monitoring, 2d Echo, carotid IMT and ABI would be important. The latter two are done at a reasonable cost by Lifeline Screening available at many community centers.

Lifestyle measures to reduce inflammation and oxidative stress and lower BP: Avoid tobacco; limit alcohol and caffeine (eliminate alcohol if unable to limit to 1 drink/day), eliminate caffeine if BP or pulse goes up after a caffeine-containing drink.

Reduce and manage stress. Resperate or Yoga breathing practice recommended.

Get adequate sleep. Exercise – aerobic 3 x/week + strength training, + 10,000 steps/day in normal activities. Get trainer to get started.

Lose weight if BMI > 25. Support group, restrict carbohydrates, especially grains (breads, pastries, pastas, etc.)

DASH diet, low sodium, high potassium, minus the grains.

Food organic when possible, local, home grown, pastured animal products, non-GMO. No trans fats (hydrogenated oils).

Protein intake - 1 to 1.2 grams/kilogram of lean body weight.

If eating fish, choosing ones that are low in mercury and fat–soluble pollutants.

Yoghurt and/or other fermented foods.

Green Tea (decaffeinated).

All nutritional supplements and herbs should have a seal of purity such as GMP or NSF, etc. The following may be helpful:

Vegetable concentrates, celery (organic) 4 stalks/day, or oil, seed, or juice.

Tomato paste (lycopenes), salt-free V-8, seaweed (Wakame)

Aged garlic (Kyolic) 600mg 1-2 caps 2x/day or 4 cloves raw, per day

Whey protein concentrate 20 grams/day

Fish oil and flax oil(refrigerated, and with Vit E for preservation), containing EPA and DHA, each approx. 1500mg/day

Low sugar, dark chocolate (not Dutched), green coffee bean extract

Omega – 9 oils – Extra virgin cold pressed olive oil 4 Tablespoons/day

Grape seed extract or pine bark extract, resveratrol, green tea extract

L-arginine 4 grams/ day, L-carnitine 1000mg 2x/day, taurine 1000mg 2x/day

Magnesium 500-1000mg chelated, take less if causing diarrhea

Vitamins – Vitamin C 1000mg 3x/day, less if loose bowels, more if tolerated.

High potency B-complex, Vit B-6 150 mg
Vit E complex (natural) 400 iu/day
Alpha lipoic acid 400mg 2x/day
N-acetyl cysteine (NAC) 500mg 2x/day
Coenzyme Q10 200mg/day
Herbs – Hawthorne berry - take recommended dose on bottle.

After the above plan has been followed, the abnormal tests could be repeated, and adjustments could be made in the medications by the health care provider prescribing the BP medications. Dr. Mark Houston, cardiologist at the Hypertension Institute of Nashville, finds that approximately 60% of patients can come off BP medications by following nutritional and other lifestyle methods.

The above recommendations have not been evaluated by the FDA and are not to be used in substitution for approved medical treatments and should be utilized under the care and advice of a qualified health professional.