High Blood Pressure - how to get it lower!

One of the most common questions I get asked is how to help get blood pressure (BP) down. People ring me with a number of symptoms, often asking if they have anything to do with having had polio.
I usually ask if they are on blood pressure pills or any other medication. I look up the particular drug in the MIMS (doctors' prescribing book) and read out the list of adverse effects to them.
Often the response I get is *"Well why didn't my doctor tell me I was having those problems because of the blood pressure pills he has me on!"*

It has been known for at least 20 years that **beta-blockers**, a class of drugs for blood pressure pills, is **contraindicated for polio survivors**. One of the reasons for this is that research has shown that beta-blockers also block the action of at least one of the carnitine enzymes so that carnitine can't get into the cells to create energy. So fatigue and muscle weakness increase, particularly for polios.

One person recently has reported an intolerable itch and irritation when he takes Ace-inhibitors and other blood pressure pills - and they don't really reduce his blood pressure anyway. His doctor hasn't been able to find a BP pill that doesn't make him itch!

So what can we do to help reduce our blood pressure ourselves? There are some simple measures that can help to make a difference.

Going up or down?

For a start it is probably a good idea to **buy one of the new blood pressure kits** that allows you take your own blood pressure at home and record it regularly at various times of the day to get some idea of what your blood pressure is really doing. There are so many factors that can influence how high or low your blood pressure may be.

"WHITE COAT" blood pressure rise

Just being at the doctor's and knowing he/she is taking your blood pressure is enough to put it up, to say nothing of rushing around getting ready to go to the doctor's, the physical exertion of getting yourself to the surgery, sitting worrying in the waiting room. All this is before you even get to see the "white coat"

It is also not generally appreciated that heart rate and blood pressure shoot up whenever we speak or try to communicate in some other way.

And this elevation is greater if we are talking to someone we see as having a higher social stature, if we speak more rapidly than usual, and if the content of the conversation deals with some important personal issue. So just talking to the doctor about what we have come to see him/her for, can also put our blood pressure up during the visit.

Also of importance according to research, is time of day, room temperature, a full bladder, eating, drinking or smoking within the past hour. Whether we are standing, sitting or supine can all influence BP measurements. The blood pressure on one arm may be higher or lower than the other arm. It is not uncommon for anxious patients to talk immediately prior to or even while the doctor is inflating the cuff, which can increase blood pressure up to 50 percent in some people.

Studies show that **other medications can raise blood pressure** including frequent use of pain-relief medications such as ibuprofen (eg Brufen or nurofen) and naproxen (eg naprosyn, naprogesic), NSAIDs (non-steroidal anti-inflammatory drugs like indocid, mobic, orudis, voltaren) may block the production of prostaglandins, which are known to dilate blood vessels. When fewer prostaglandins are present, blood vessels may narrow, which could lead to hypertension.

Anything that blocks or narrows the diameter of blood vessels will increase the pressure needed to push the blood through the arteries. **Magnesium and Vitamin E are both needed to maintain the elasticity and stretch of blood vessels.**

Vitamin C is needed to stop the lining of the blood vessels from developing holes and leaking. Plaque build-up is the body's effort to plug weakened spots and this narrows the space increasing the pressure just like when we occlude the hose to get more pressure. Vitamin C makes that inner lining slippery so that cholesterol and calcium don't build up as plaque. Nitric oxide relaxes blood vessels and **Vitamin C also protects** the body's supply of nitric oxide. Folic Acid can also help to lower blood pressure so **eat plenty of greens** to get more folate.

Jack Phillips, (now deceased) used to tell me that **eating or drinking anything sweet** (for example orange juice or a feed of grapes) for a few days or just before seeing the doctor **would raise** his **BP.**

Insulin is another major reason why high blood pressure persists. Most people with raised blood pressure have insulin receptors that are blunted - they don't work very well anymore. The body needs to generate more insulin to get them to work.

Excessive insulin will cause serious complications - far more so than high blood sugar - and is one of the

prime causes of complications from high blood pressure and diabetes.

So the first step is to **eliminate most grains** and all **sweets from your diet** until your blood pressure and weight normalise. **Sugars and grains only tend to make your insulin levels remain elevated**. Meat (also chicken, fish and dairy) and vegies with 2 pieces of fruit should be our staple daily diet.

Another way to **lower** your insulin levels and **your blood pressure** would be to **use exercise wisely.** The ability to exercise and sustain exercise can be a problem for polios. A referral by your GP to **see Jega at the Late Effects Clinic at RPH Shenton Park** will help you to work out an exercise regime to suit you and not stress polio affected muscles. **(Remember to send your referral to Tessa at the Polio Office to get a faster appointment.)**

Here are a few interesting studies:

Placebo Lowers Blood Pressure in Nearly One-Third of Patients

This study demonstrated that 30% of patients with mild to moderate elevated blood pressure (BP), who received a placebo, had their BP lowered to below the set goal of a diastolic pressure (bottom number) of lower than 90 mm Hg. The researchers note that this high response rate is close to those achieved with medication and may therefore be a valuable tool, especially considering the significant adverse effects that can occur with drugs.

However, it is important to remember that **high blood pressure normally kills you slowly** over time. If your systolic blood pressure is **over 160-180**, though, there is a danger that **you could have a stroke**. Because of this, you need to be very careful about stopping your blood pressure medications without monitoring your blood pressure, as strokes can be very devastating.

Arch Intern Med. 2000;160:1449-1454

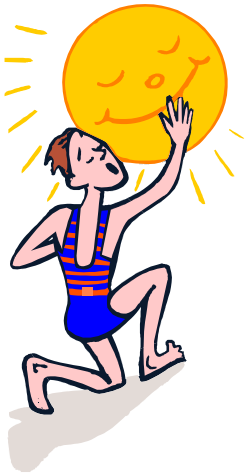
Ultraviolet Light May Contribute to Geographic and Racial Blood Pressure Differences

Study by - Stephen G. Rostand, MD, Division of Nephrology, University of Alabama at Birmingham, AL

Abstract: Mean systolic and diastolic pressures and the prevalence of hypertension vary throughout the world. Published data suggest a linear **rise in blood pressure at increasing distances from the equator**.

Similarly, **blood pressure is higher in winter than summer.** Blood pressure also is affected by variations in skin pigmentation. Altered calcium, vitamin D, and parathyroid hormone status is associated with hypertension and may vary with latitude and season. Since changes in UV light affect vitamin D and parathyroid hormone status and UV light intensity are influenced by seasonal change and latitude, these disparate observations suggest an **association between blood pressure and ultraviolet light.** This discussion presents the hypothesis that reduced epidermal vitamin D_3 photosynthesis associated with high skin melanin content and/or decreased UV light intensity at distances from the equator, alone or when coupled with decreased dietary calcium and vitamin D, may be associated with **reduced vitamin D stores** and increased parathyroid hormone secretion. These changes may stimulate growth of vascular smooth muscle and enhance its contractility by affecting intracellular calcium, adrenergic responsiveness, and/or endothelial function. Thus, UV light intensity and efficiency of epidermal vitamin D_3 photosynthesis may contribute to **geographic and racial variability** in blood pressure and the prevalence of hypertension.

Thus exposure to sunlight actually significantly lowered blood pressure. Researchers theorize that UV exposure leads to the release of chemicals in the brain called endorphins, which are linked to both pain relief and euphoric feelings. The researchers believe that decreased vitamin D production actually results in increased parathyroid hormone production that actually serves to increase blood pressure. Another study actually found that **vitamin D** is a negative inhibitor of the renin-angiotensin system and this **serves to lower blood pressure.**



Hypertension. 1997;30:150-156.
American Heart Association, Inc.

What about Low Salt Diets?

There has been some evidence that a low-sodium diet interferes with glucose metabolism **[diabetes]** and may be **associated with increased cholesterol**; it is also possible that the latter may reflect modest vasoconstriction (high BP) generated by sustained sodium restriction. **A low-sodium diet** has also been **implicated in chronic fatigue syndrome.**

Journal of the American Society of Nephrology 2004

There has been much controversy over whether reducing salt helps to lower blood pressure with studies for and against. Some people benefit and for others it makes no difference. No mention is made as to the type of salt. A good quality sea salt gives us other beneficial minerals as well so sea salt is better for us than ordinary processed table salt.

I suggest trying to see for yourself with your own blood pressure machine, whether any of these suggestions helps to lower your blood pressure. We are all individual with different needs - and all research needs to be taken - with a grain of salt!

written by Tessa Jupp RN