

High Blood Pressure

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High blood pressure (i.e. hypertension) is abnormally high pressure in the arteries.

***Old Theory:**

- Often no cause for high blood pressure can be identified, but sometimes it occurs as a result of an underlying disorder of the kidneys or a hormonal disorder.
- Obesity, a sedentary lifestyle, stress, smoking, and excessive amounts of alcohol or salt in the diet all can play a role in the development of high blood pressure in people who have an inherited tendency to develop it.
- High blood pressure with no known cause is called **primary hypertension**. Between 85% to 95% of people with high blood pressure have primary hypertension. Several changes in the heart and blood vessels probably combine to increase blood pressure. Primary hypertension cannot be cured, but can be controlled with prescription drugs to prevent complications.
- High blood pressure with a known cause is called **secondary hypertension**. Between 5% and 15% of people with high blood pressure have secondary hypertension. In many of these people, high blood pressure results from a kidney disorder. Many kidney disorders can cause high blood pressure because the kidneys are important in controlling blood pressure. For example damage to the kidneys from inflammation or other disorders may impair their ability to remove enough salt and water from the body, increasing blood volume and blood pressure. Other kidney disorders that cause high blood pressure include renal artery stenosis (narrowing of the artery supplying one of the kidneys), which may be due to arteriosclerosis, injury, or other disorders. Again secondary hypertension cannot be cured, but can be controlled in the initial stages with prescription drugs. The prognosis is not good as a very large number of these patients ultimately end up with stroke and / or permanent kidney damage some time during their lifetime – it is only a matter of time.

*Adapted from: Merck Manual Professional and Merck Home Manual Edition

New Theory:

- Often the primary cause for high blood pressure can be identified as an intracellular magnesium deficiency, but sometimes it occurs as a result of an underlying disorder of the kidneys or a hormonal disorder.
- Obesity, a sedentary lifestyle, stress, smoking, and excessive amounts of alcohol in the diet all can play a role in accelerating the development of high blood pressure. ***There is really no correlation between high blood pressure and normal salt¹ intake or hereditary factors.***
- In most people, high blood pressure does not manifest any symptoms.
- Doctors make the diagnosis after measuring blood pressure on two or more occasions.
- People are advised to lose weight, stop smoking, and decrease the amount of fat in their diets. All these factors only help to delay the onset or progression of high blood pressure.
- ***Alternative measures are usually tried before any drugs are prescribed once high blood pressure sets in.***
- Reducing one's intake of alcohol while maintaining adequate intake of magnesium and potassium makes prescription drug therapy for high blood pressure unnecessary.
- When all else fails, antihypertensive drugs are given in order to achieve immediate relief and will invariably work only in those cases of magnesium deficiency induced high blood pressure. However, these types of drugs are generally ineffective for renal induced hypertension. Long term administration of diuretics like hydrochlorothiazide (HCTZ) (in combination with antihypertensive drugs) to patients with renal induced hypertension is not advisable as these patients are already suffering kidney insufficiency and poor filtration capabilities. Adding extra burden on the kidneys with diuretic drugs such as HCTZ will only help to accelerate the degradation of kidney performance and can finally hasten it towards chronic renal failure (CRF). ***Diuretics are known to cause excessive loss of potassium and magnesium which are required to lower blood pressure.*** So the long term effect of prescription drug diuretics may actually be detrimental to the health of the patient.

1) For importance of "Salt in Digestion" please go to: <http://www.space-age.com/Salt.pdf>

To many people, the word hypertension suggests excessive tension, nervousness, or stress. In medical terms, hypertension refers to high blood pressure, regardless of the cause. Because it usually does not cause symptoms for many years, until a vital organ is damaged, it has been called "the silent killer." Uncontrolled high blood pressure increases the risk of problems such as stroke, aneurysm, heart failure, heart attack, and kidney damage.

Many would like to lay blame on increasing levels of stress in the office environment and in the industrial world we live in as the cause for high blood pressure. This is generally not true.

It is not unusual to find younger people with high blood pressure / low cardiac efficiency today. This is true of approximately 25% in the age group of 25 to 35 years. This is due to the constant erosion in the nutritional value of the produce today due to over cultivation of our farmlands and rampant use of synthetic fertilizers. Stress has a minor role to play here.

High blood pressure occurs uniformly in all races and geographical locations of the world and is not exclusively related to the age of the person. However, the percentage of people affected increases with the progression of age. This is because nutrition in the body normally depletes with passing years and is more pronounced in old age. This is also further compounded by weak digestion and the inability to efficiently absorb nutrition from the food we eat as we age. Reducing salt in the diet to control blood pressure further reduces the flow of gastric juices (hydrochloric acid) essential for digestion. For more info on importance of salt in digestion please go to: <http://www.space-age.com/Salt.pdf>

Only an estimated 70% of people with high blood pressure have been diagnosed. Of those diagnosed with high blood pressure, about 84% receive treatment, and of the people receiving treatment, only about 58% have adequately controlled blood pressure. When nutritional deficiencies become excessive, most antihypertensive drugs fail to achieve the desired results and seem ineffective.

The prognosis for such patients can be a stroke and/or failed kidneys. It is only a matter of time.

High blood pressure is not age related. Blood pressure found in excess of 120/80 would call for exploratory methods of its correction.

It is important to assess the "cardiac efficiency" of the patient and immediately correct it, rather than wait for blood pressure, tachycardia or bradycardia to manifest itself.

Normal Blood Pressure & Heart Rate

BP for Vegetarians and Asians with Predominantly Vegetarian Diet

- BP = 110 / 70 mm Hg
- Heart Rate = 70 beats per minute
- BP and Heart Rate on Exercising must increase **↑** to reflect **Good Cardiac Efficiency.**
- If instead it goes down **↓** than it means or is a foreboding of a **Serious Heart Disease.**
- BPs = 120 / 80 to 125 / 85 mm Hg
- Heart Rate = 85 beats per minute

BP for Caucasians (Predominantly Meat Eaters)

- BP = 120 / 80 mm Hg
- Heart Rate = 70 beats per minute
- BP and Heart Rate on Exercising must increase **↑** to reflect **Good Cardiac Efficiency.**
- If instead it goes down **↓** than it means or is a foreboding of a **Serious Heart Disease.**
- BPs = 130 / 90 to 135 / 90 mm Hg
- Heart Rate = 85 beats per minute

The Art of Measuring Blood Pressure

- The patient is seated in a chair and made to relax for **10 whole minutes**, before the cuff of a manually pumping digital blood pressure measuring machine is placed on the upper left arm. After manually pumping, the Blood Pressure (**BP**) is measured along with the Heart Rate (**P**).
- Thereafter, the patient is asked to stand up and this measurement is once again immediately repeated. The standing Blood Pressure (**BPs**) and the Heart Rate (**Ps**) is also noted.

The Interpretation of These Numbers

- The interpretation of these numbers (pertaining to **Cardiac Efficiency**) is as follows:
- In a normally health young person, with good cardiac efficiency, the systolic, diastolic and heart rate should **increase by 10 to 15 points** upon standing up.
- Poor or small increase in any or all of these numbers is indicative of poor cardiac efficiency.
- A fall in any of these numbers is indicative of a serious cardiac inefficiency and is foreboding of an eminent cardiac event.
- Tachycardia or Bradycardia is indicative of a serious overall nutritional deficiency pointing principally to an intracellular magnesium deficiency.

“Cardiac Efficiency”

- BP = 110 / 70 mm Hg (Systolic / Diastolic)
- P = 70 beats per minute (after 10 mins. rest)
- BP_s = 120 to 125 / 80 to 85 mm Hg (after immediately standing up)
- P_s = Standing Heart Rate = 80 to 85 beats per minute (must increase ↑ on exercise)
- No increase in BP or Heart Rate indicates **Poor Cardiac Efficiency**
- Falling ↓ BP or Pulse is indicative of an **Serious Cardiac Inefficiency** and is a foreboding of an **Eminent Cardiac Event**.

From a prevention point of view, It is more important to routinely check for “cardiac efficiency” and correct it in the initial stage, rather than wait for the next stage when blood pressure rises and tachycardia / bradycardia manifests itself.

Treatment for High Blood Pressure

Serum Magnesium

- The international standard is:
 - Standard Reference Range**
1.8 mg/dL to 3.0 mg/dL
(0.7 mmol/L to 1.2 mmol/L)
 - Optimum Value**
2.4 mg/dL to 2.8 mg/dL
(1.0 mmol/L to 1.2 mmol/L)
- Serum magnesium is not a very accurate assessment.
- Intracellular measurement is a more sensitive test.

Low Serum Magnesium - Symptoms

Values below 2.4 mg/dL (1.0 mmol/L) are encountered in patients suffering from:

- 1) High Blood Pressure
 - 2) Type 2 Diabetes
 - 3) Tachycardia
 - 4) Bradycardia
 - 5) Low or falling LVEF
 - 6) Other Cardiac Diseases
- or a combination of these depending on how serious the magnesium deficiency really is.

Correcting Magnesium Deficiency - I

- Recommended Daily Allowance
RDA = 350 mg
- Optimum Daily Allowance
ODA = 600 mg
- **Therapeutic Dose** =
Elemental Organic Magnesium 1000 - 1440 mg /
day in 4 equal divided doses for few months.
- **Organic Magnesium (Forte)**
Elemental 360 mg q4h for 3 to 6 months.

Correcting Magnesium Deficiency - II

- Calcium is an antagonist to magnesium and will block its absorption.
- Stop calcium supplements.
- Stop dairy products like milk, cheese, butter milk, etc.
- Not easy to correct magnesium deficiency.
- Will normally take six months to one year to correct the deficiency.

Around this time please do a serum magnesium test after discontinuing all magnesium supplementation for a **minimum period of 7 days**.

Continue intracellular magnesium supplements with other supporting nutrients until serum magnesium reaches optimum serum level of 2.4 mg/dL (1.0 mmol/L) indicated above.

If serum uric acid or creatinine levels are above optimum and closer to the upper end of the Standard Reference Range, please **discount** all serum mineral levels including magnesium by 10% to 20% to arrive at the **true (retained)** serum levels.

Renal Profile	Optimum Level	Std. Reference Range
Blood Urea Nitrogen	12.0 mg/dL	7.0 to 18.0 mg/dL
Serum Creatinine	0.8 mg/dL	0.5 to 1.5 mg/dL
Serum Uric Acid	4.0 mg/dL	3.6 to 7.8 mg/dL

If Blood Urea Nitrogen (BUN) is at the lower end of the Standard Reference Range or below normal, it means that there is a serious “**Nitrogen Imbalance**” in the body caused by very low dietary protein intake. In that case, readings in the Renal Profile will be inconclusive and should not be relied upon.

If there is no protein / nitrogen deficiency in the body, and serum creatinine and serum uric acid are much higher than the **Optimum Levels**, it would be advisable to first detoxify the kidneys to lower these numbers and bring the

kidneys to a more optimal functional state. For more information on detoxification of kidneys please go to: <http://www.space-age.com/Detox.pdf>

For case studies on lowering creatinine and serum uric acid as well as how to improve kidney efficiency please read the following papers published by A4M – The American Academy of Anti-Aging Medicine, Textbook Series - Volume 12 and 13:

<http://www.space-age.com/AntiagingOrland.pdf>

and

<http://www.space-age.com/AntiagingSanJose.pdf>

If in doubt about a possible kidney malfunction (renal insufficiency), please do the serum Cystatin - C Test.

The Cystatin - C test helps identify kidney dysfunction at earlier stages, before symptoms appear and creatinine levels rise. Again, this is a serum protein test and will be inconclusive in case of a serious protein / nitrogen deficiency in the body.

A kidney malfunction (renal insufficiency) invariably causes “Renal Induced Hypertension” also known as “secondary hypertension”. This high blood pressure does not respond to hypertension lowering drugs like amlodipine or atenolol. The solution to lowering such Renal Induced Hypertension is to first detoxify and repair the kidneys and bring the Renal Profile to optimum levels as previously referenced.

Cystatin - C

Cystatin C (cysteine protease inhibitor) is a serum protein that is filtered out of the blood by the kidneys and that serves as a measure of kidney function. An increased serum Cystatin C corresponds to a decreased GFR (glomerular filtration rate) and hence to kidney dysfunction.

The Cystatin C test helps identify kidney dysfunction at earlier stages, before symptoms appear and Creatinine levels rise.

It also helps predict impending cardiovascular problems such as heart attack, stroke etc, in the elderly.

Reference Range: (Random Blood Sample)

Male & Female: 0.53 to 0.95 mg/L

Optimum Value:

Male & Female: ≤ 0.7 mg/L

Notes:

If high blood pressure is primarily due to magnesium deficiency, continue taking therapeutic doses of organic magnesium supplements, along with other supporting nutrients, designed to alter intracellular magnesium levels until optimal Cardiac Efficiency is achieved. About 70% of all cases of high blood pressure are due to primary hypertension due to a serious and prolonged magnesium deficiency. Hence there is no correlation between high blood pressure and normal salt intake. Chronic hypertension is a fully reversible “symptom” due to chronic nutritional deficiencies and is therefore neither “hereditary” or a “disease.”

If high blood pressure is due to a secondary cause like renal insufficiency, it is best to undergo an elaborate kidney detoxification to bring serum creatinine and serum uric acids are brought down to optimum levels, as referenced above. About 10% of all cases of high blood pressure are due to secondary hypertension. Again hereditary has no role to play here. This is also reversible in a majority of cases. The prognosis for uncorrected renal induced hypertension is not good as a very large number of these patients ultimately end up with stroke and / or permanent kidney damage – it is only a question of time.

For more information on enhancing kidney efficiency, please refer to the case studies on lowering creatinine, serum uric acid published in following papers by A4M – The American Academy of Anti-Aging Medicine, Textbook Series - Volume 12 and 13:

<http://www.space-age.com/AntiagingOrland.pdf>

and

<http://www.space-age.com/AntiagingSanJose.pdf>

For more information on the detoxification of kidneys, please go to:

<http://www.space-age.com/Detox.pdf>

Many times you will find primary and secondary hypertension coexisting together. This happens in about 20% of all high blood pressure cases. In such cases if the kidneys are well above the standard reference range, it is important to first start with kidney detoxification (i.e. servicing and repair of organs) before attempting intracellular magnesium therapy. Basic kidney repair may take 3 to 6 months of treatment before magnesium therapy can be commenced.

In each of these cases it is best to monitor the progress of the treatment by use of a simple digital blood pressure monitoring machine. Manual pumping, upper arm machines are preferable as they are fairly accurate and easy to use while measuring one’s own blood pressure. With this machine, you can also indirectly monitor the monthly improvements in nutritional levels and / or kidney function on a daily, weekly and monthly basis by maintaining a daily log of the readings.

It normally requires 6 to 9 months to reverse primary and secondary hypertension in a majority of cases. One should look for a possibility of gradually titrating downward the antihypertensive prescription drugs around the third month of beginning the treatment as mentioned above. Dependence on diuretic drugs should be preferentially and gradually titrated downwards as it results in excretion of potassium and magnesium from the body, which are essential nutrients for lowering high blood pressure.

Here are some interesting case studies in kidney detoxification which is fundamental to the treatment of secondary hypertension:

A good detoxification process of the kidneys should help a fairly healthy person, to change his or her kidney profile, irrespective of their physical age, to closely match the optimum values of Renal Profile given earlier.

Patient: Female, Age: 39, Height: 5ft 3 in., Weight: 163.6 lb (74.36 Kg.), Fat = 42.5% (++), BP = 107 / 71, Pulse = 67 bpm, Diet: Meat Eater (Ref: BD)			
Renal Profile	# Std. Ref. Range	* 10/12/2007	** 12/03/2007
Blood Urea Nitrogen (BUN)	4.5 to 21.0 mg/dL	17.0 mg/dL	11.0 mg/dL
Serum Uric Acid	3.6 to 8.2 mg/dL	4.3 mg/dL	4.0 mg/dL
Creatinine	0.5 to 1.5 mg/dL	1.0 mg/dL	0.6 mg/dL
Serum Total Proteins	6.4 to 8.3 g/dL	8.70 g/dL	7.6 g/dL
Serum Albumin	3.4 to 4.8 g/dL	5.4 g/dL	4.9 g/dL
# Correlate with clinical symptoms			
Note: 8 week detoxification program was started on October 15, 2007			
* Prior to starting detoxification.			
** After 7 weeks of complete body detoxification			

**Table 1 - Case Study No. 1(A)
Diagnosing and Preventing Kidney Failure Through Kidney Detoxification**

The patient in case study 1(A) originally came to us for a treatment of “mainstream medicine induced hypothyroidism” resulting from a radioactive iodine treatment for hyperthyroidism done many years earlier and the ensuing obesity. In the course of routine investigation, numerous blood tests were carried out as per the requirements of preventive health care and anti-aging medicine.

When we looked at the Renal Profile of the patient, everything looked “normal” except for the slight increase in the serum proteins and albumin levels. However, the serum magnesium and zinc levels were higher than values normally encountered in a patient with this medical history. This gave us an indication of an underlying kidney malfunction. Based on this data, an initial diagnosis of kidney insufficiency (malfunction) was arrived at and the patient was put through a standard detoxification program with special emphasis on an extended kidney detoxification. Later on in this paper we will restudy this case in a more detailed manner to see how we immediately verified this initial diagnosis to illustrate that a proper kidney detoxification would prevent a chronic renal

failure (CRF) in the future. The progress of this case during the first seven weeks (Table 1) shows a marked improvement in the kidney function and paved the way for returning the kidneys to youthful healthy levels and maintaining them at optimum levels, in the future, as per the goals of anti-aging medicine and preventive health care.

Patient: Male, Age: 40, Height: 5ft 6 in., Weight: 170.0 lbs. (77.272 Kg.), Fat = 26.7% (++) BP = 153 / 97, Pulse = 98, BPs = 174 / 99 Pulse = 87 Diet: Vegetarian (Low Protein) (Ref: DP)				
Renal Profile (Std. Reference Range)	* 03/24/2009	** 04/22/2009	*** 06/24/2009	**** 09/01/2009
Serum Uric Acid (2.1 to 7.8 mg/dL)	7.2 mg/dL	6.5 mg/dL	4.8 mg/dL ↓	# 6.8 mg/dL ↓
Creatinine (0.5 to 1.5 mg/dL)	1.2 mg/dL	1.2 mg/dL	1.2 mg/dL	1.0 mg/dL ↓
Allopurinol	100 mg qd	100 mg qd	100 mg qd	100 mg qd
Acetaminophen 500 mg (Paracetamol)	bid	bid	bid, on and off	Nil for last 8 weeks
Standard 8 Weeks Detoxification & Rejuvenation Program		Began on 04/04/2009	Special Kidney Detoxification	Special Kidney Detoxification
Herbal Teas for Kidney Detoxification (2 Types)		2 cups per day	4 cups per day	3 cups per day
Special Vitamin C (With Neutral pH)	Nil	Nil	500 mg bid from 07/10/2009	500 mg bid
Serum Uric Acid = 10.4 mg/dL on 07/29/2005 when Allopurinol 100 mg qd and Acetaminophen (Paracetamol) 500 mg bid was started. Left kidney is seen in ectopic location in left iliac fossa and is malrotated. Normal high velocity low impedance flow in main renal artery. Patient only on carbohydrate diet.				
Note: 8 week detoxification program was started on April 04, 2009.				
* Prior to starting detoxification. Condition is pre-gout stage with serious walking difficulty.				
*** After 11 weeks of whole body detoxification with extended kidney detoxification using herbal supplements + herbal teas. Patient on carbohydrate diet.				
**** After 21 weeks of kidney detoxification. # Patient on a restricted diet with 0.3 oz. (10 g) max. veg. proteins / day. Weight reduced to 157.6 lbs. (71.636 Kg) and body fat reduced to 22.4 % (+). A body fat drop of 4.3%.				

**Table 2 - Case Study No. 2(A)
Kidney Detoxification for Lowering Serum Uric Acid & Creatinine (Chronic Case)**

The patient in case study 2(A) began suffering frequent bouts of joint pains about 10 years back. These were treated with acetaminophen (paracetamol) 500 mg bid. No inference was reached as to what triggered these episodes. If inflammation ensued, it was treated with the addition of diclofenac 50mg. This continued until 2005, with the frequency of these episodes increasing steadily, when it was finally detected that serum uric acid had reached 10.4 mg/dL. At this stage, allopurinol 100 mg qd was prescribed to maintain serum uric acid at slightly lower levels. The patient, an Endocrinologist, came to us in March of 2009 seeking treatment to lower serum uric acid levels through the detoxification of kidneys. At that stage, joint pain was a regular feature, with serious walking difficulty and the case appeared to be a pre-gout condition solely controlled with allopurinol 100 mg qd, which helped to maintain serum uric acid at 7.2 mg/dL.

During a routine check up, the patient was also detected with high blood pressure which had gone undiagnosed for many years.

An elaborate kidney detoxification program was started to lower the serum uric acid and the creatinine levels and to prevent a future occurrence of CRF and / or stroke. This would have been the prognosis of this case under mainstream medicine today. The progress of the patient over a 5 month period is shown in Table 2.

Here is a more advanced analysis of the kidney detoxification case shown above with more detailed and in depth study:

Patient: Female, Age: 39, Height: 5ft 3 in., Weight: 163.6 lbs. (74.36 Kg.), Fat = 42.5% (++) BP = 107 / 71, Pulse = 67, Diet: Meat Eater (Ref: BD)				
Renal Profile	* 10/12/2007	# Std. Ref. Range	** 12/03/2007	**** 04/18/2008
Blood Urea Nitrogen (BUN)	17.0 mg/dL	7 to 18.7 mg/dL	11.0 mg/dL	12 mg/dL
Serum Uric Acid	4.3 mg/dL	2.6 to 6.0 mg/dL	4.0 mg/dL	3.5 mg/dL
Serum Creatinine	1.0 mg/dL	0.6 to 1.1 mg/dL	0.6 mg/dL	0.75 mg/dL
Serum Total Proteins	8.70 g/dL	6.4 to 8.3 g/dL	7.6 g/dL	7.75 g/dL
Serum Albumin	5.4 g/dL	3.4 to 4.8 g/dL	4.9 g/dL	5.07 g/dL
Serum Globulin	3.3 g/dL	1.8 to 3.6 gm%	2.7 g/dL	2.68 g/dL
A/G Ratio	1.64	1.1 to 2.2	1.81	1.89
Cystatin C	1.02 mg/L ↑	0.53 to 0.95 mg/L	0.77 mg/L ↓	0.71 mg/L ↓
C Reactive Protein	2.71 mg/L	Upto 3.0 mg/L	1.95 mg/L	0.93 mg/L
Daily Protein Intake RDA = 1 g/Kg Body Weight	Unrestricted	Approximately 2.0 oz. (60 g)	Vegetarian 0.3 oz. (10 g)	Unrestricted (Avg. 1.0 oz. (35 g))
# Correlate with clinical symptoms				
Note: 8 week detoxification program was started on October 15, 2007				
* Prior to starting detoxification. At the start of the program she was put on restricted protein (only vegetarian) diet of only 0.3 oz. (10 g) per day				
**After 7 weeks of whole body detoxification. Her protein (mixed) intake was increased to 25 g /day after noting the improvement in renal function				
**** After 24 weeks when there were no restrictions imposed on her protein intake for the last 16 weeks.				

**Table 3 - Case Study No. 1(B)
Preventing Kidney Failure - Advanced Analysis**

Cystatin C (cysteine protease inhibitor) is a serum protein that is filtered out of the blood by the kidneys and that serves as a measure of kidney function. An increased serum *Cystatin C* corresponds to a decreased GFR (glomerular filtration rate) and hence to a kidney dysfunction.

The Cystatin C test helps identify kidney dysfunction at earlier stages, before symptoms appear and creatinine levels rise.

**Standard Reference Range: (Random Blood Sample)
Male & Female: 0.53 to 0.95 mg/L**

**Optimum Value:
Male & Female: ≤ 0.7 mg/L**

The initial diagnosis of a serious kidney malfunction, case study 1(A) given above in Table 1, was immediately verified on the same blood sample by conducting the Cystatin C test prior to confirming the need for an elaborate and extended kidney detoxification program.

The above is a case study on kidney servicing, detoxification and rejuvenation. The patient is taken from the precipice of chronic renal failure (CRF) to good health. Here the kidney function has been returned back to fairly youthful levels in a matter of a short period of 7 weeks. Further improvements are noted at the end of 24 weeks when Cystatin C has been brought down to an optimum value of 0.7 mg/L.

The next in-depth study we are going to do pertains to a treatment of secondary hypertension and improvement in **Cardiac Efficiency**. This case shows how high blood pressure, induced by renal insufficiency and nonresponsive to prescription drugs, can be lowered solely through detoxification of kidneys.

Patient: Male, Age: 40, Height: 5ft 6 in., Weight: 170.0 lbs. (77.272 Kg.), Fat = 26.7% (++) BP = 153 / 97, Pulse = 98, BPs = 174 / 99 Pulse = 87 Diet: Vegetarian (Low Protein) (Ref: DP)				
Renal Profile (Std. Ref. Range)	* 03/24/2009	** 04/22/2009	*** 06/24/2009	**** 09/01/2009
Serum Uric Acid (2.1 to 7.8 mg/dL)	7.2 mg/dL	6.5 mg/dL	4.8 mg/dL	6.8 mg/dL
Allopurinol	100 mg	100 mg	100 mg	100 mg
Acetaminophen 500 mg (Paracetamol)	X 2	X 2	X 2 on and off	Nil for 8 weeks
Amlodipine	5.0 mg		5.0 mg	Nil for 4 weeks
Blood Pressure (BP) & Heart Rate (P)	BP = 153/97 P = 98 ↑	BP = 160/100 P = 96 ↑	BP = 130/94 P = 80	BP = 130/79 P = 78
Standing Blood Pressure (BPs) + Standing Pulse (Ps)	BPs = 174/99 Ps = 87			BPs = 143/95 Ps = 89
Heart Rate (Standing) Ps	# Ps = 87 ↓			Ps = 89 ↑
Std. 8 Weeks Detoxification & Rejuvenation Program		Began on 04/04/09	Sp. Kidney Detox.	Sp. Kidney Detox.
2 Herbal Teas for Kidney Detox.		2 cups per day	4 cups per day	3 cups per day
Special Vitamin C (With Neutral pH)	Nil	Nil	500 mg X 2 from 07/10/2009	500 mg X 2
# Falling Heart Rate ↓ on exercising indicates poor cardiac efficiency and a serious intracellular magnesium deficiency. High BP ↑ not responding to amlodipine indicates malfunctioning of kidneys is also a prime cause of hypertension.				
* Prior to starting detoxification. Condition is pre-gout stage with serious walking difficulty.				
*** After 11 weeks of whole body detoxification with extended kidney detoxification using herbal supplements + herbal teas				
**** After 21 weeks of kidney detoxification. Weight = 157.6 lbs. (71.636 Kg), Weight reduced by 12.4 lbs. (5.636 Kg). Fat reduced to 22.4% (+). Body fat reduced by 4.3%.				

**Table 4 - Case Study No. 2(B)
Kidney Detoxification for Lowering Secondary Hypertension – Advanced Analysis**

The above is an in-depth view of case study 2(A) given above in Table 2, where an elaborate kidney detoxification was done over a 5 months period.

Kidney detoxification has also been shown to help reduce “renal malfunction induced hypertension” and reduce heart rate which normally does not respond to hypertension prescription drugs like amlodipine.

The Art of Measuring Blood Pressure and Meaning Behind These Numbers.

The patient is seated in a chair and made to relax for 10 whole minutes, before the cuff of a manually pumping digital blood pressure measuring machine is placed on the upper left arm. After manually pumping, the blood pressure (BP) is measured along with the heart rate (P).

Thereafter, the patient is asked to stand up and this measurement is once again immediately repeated. The standing blood pressure (BPs) and the heart rate (Ps) is also noted.

The interpretation of these numbers (pertaining to **Cardiac Efficiency**) is as follows:

1. In a normally healthy young person, with good cardiac efficiency, the systolic, diastolic and heart rate should increase by 10 to 15 points upon standing up.
2. Poor or small increase in any or all of these numbers is indicative of poor cardiac efficiency.
3. A fall in any of these numbers is indicative of a serious cardiac inefficiency and a foreboding of an eminent cardiac event.
4. Tachycardia or bradycardia is indicative of a serious overall nutritional deficiency pointing principally to an intracellular magnesium deficiency.

Some of the indicators which should signal the need of immediate kidney detoxification are:

1. Values in the renal profile of the patient are on the higher end of the standard reference range;
2. Values in the renal profile are not conclusive and do not correlate with the clinical symptoms, then Cystatin C and / or the GFR values should be checked and brought down to the optimum value;
3. Higher than normal levels of minerals like magnesium, zinc, calcium, etc. which appear to be falsely elevated due to improper filtration in the kidneys and its inability to maintain the body's electrolyte (mineral) balance;
4. Uncontrolled hypertension not responding to standard prescription drugs; and
5. To look for some other markers which may be inadvertently overlooked like:
 - a) Calcium oxalate crystal in the urine
 - b) Calcification of the kidney
 - c) Formation of kidney stones

While detoxification of the kidneys will help to remove calcium deposits in the kidneys, including small stones (normally less than 4 mm in diameter), it will in no way prevent their reformation. For this, one must address the underlying cause of their formation in the first place. This means, we have to go to the root cause of their formation. Here the cause normally encountered is excess calcium in the body coupled with magnesium deficiency. The only way to resolve these problems on a permanent basis after a proper and thorough kidney detoxification is to administer therapeutic doses of organic magnesium at intracellular levels and to remove calcium toxicity by correcting the ratio of magnesium to calcium in the body. This can also help to remove the presence of calcium oxalate crystals in the urine which is also an indication of a serious magnesium deficiency.

The presence of osteoarthritis, osetophytes, and bone / heel spurs is also an indication of magnesium deficiency and calcium “toxicity” in the body. This is invariably caused by the intake of calcium supplements (taken in isolation without other supporting and essential nutrients for bone formation) for prolonged periods in the belief that calcium is “good” for the prevention of osteoporosis.

Here are some more case studied done in reversal of primary hypertension and reversal of a combination of primary and secondary hypertension:

Patient: Female, Age: 24, Height: 5ft 7 in., Weight: 131.2 lbs. (59.636 Kg.), Fat = 24.56% (0), BP = 162 / 105, Pulse = 69, BPs = 149 / 103 Pulse = 78 bpm Diet: Vegetarian (Low Protein) (Ref: DK) without Rx = without Antihypertensive Prescription drugs				
Cardiac Profile (Standard Reference Range)	* 05/18/2010	** 06/26/2010	07/07/2010	*** 08/31/2010
Blood Pressure (BP) (110/70) & Heart Rate (P) (70)	BP = 162/105 P = 69	BP = 143/92 P = 72	BP = 128/91 P = 74	BP = 114/83 P = 73
Standing Blood Pressure (BPs) Standing Pulse (Ps)	# BPs = 143/92 ↓ Ps = 72	BPs = 141/98 Ps = 76	BPs = 136/91 Ps = 66 ↓	BPs = 117/86 Ps = 82 ↑
Heart Rate (Standing) Ps bpm	Ps = 78	# Ps = 76	# Ps = 66 ↓	Ps = 82 ↑
Risk Profile	High as w/o Rx	High as w/o Rx	Moderate as w/o Rx	Low no Rx required
Cardiac Efficiency	Poor. Blood Pressure falls on exertion	Poor. Blood Pressure falls on exertion	Poor. Heart Rate falls on exertion	Fair. Blood Pressure falls on exertion
Renal Profile (Standard Reference Range)	* 05/21/2010			
Serum Creatinine (0.6 to 1.4 mg/dL)	0.85 mg/dL			
Serum Uric Acid (2.6 to 6.0 mg/dL)	3.30 mg/dL			
Blood Urea Nitrogen (BUN) (7.00 to 18.0 mg/dL)	7.5 mg/dL ↓ Renal Profile inconclusive due to Protein (N₂) ↓ deficiency			
Cystatin C (0.53 to 0.95 mg/L) Optimum ≤ 0.7 mg/L	0.76			
Daily Protein Intake RDA = 1 g/Kg Body Weight	Protein deficiency, Nitrogen Imbalance N₂ ↓			
# Falling blood pressure or heart rate ↓ on exercising indicates poor Cardiac Efficiency (serious intracellular magnesium deficiency).				
* Prior to starting detoxification and magnesium supplements. H/o first degree hypertension detected 6 years earlier. But patient has refused to take anti-hypertensive prescription medication recommended by her family physician.				
** After 5 weeks of complete body detoxification and rejuvenation with intracellular magnesium supplements.				
*** After 14 weeks of intracellular magnesium supplementation and completion of a 8 week standard whole body detoxification and rejuvenation program.				

**Table 5 - Case Study No. 3
Reversal of Primary Hypertension**

Patient: Female, Age: 61, Height: 5ft 1 in., Weight: 135.2 lbs. (61.454 Kg.), Fat = 36.9% (+), BP = 164 / 97, Pulse = 82, BPs = 178 / 103 Pulse = 92 bpm Diet: Vegetarian (H/o Diabetes) (Ref: SR) with Rx for Hypertension = Amlodipine 5.0 mg + Metoprolol ER 50.0 mg with Rx for Diabetes = Gliclazide 80 mg + Metformin HCl 500 mg				
Cardiac Profile (Standard Reference Range)	*	**	***	****
	12/06/2010	02/09/2011	03/12/2011	04/12/2010
Blood Pressure (BP) (110/70) & Heart Rate (P) (70)	# BP = 164/97 P = 82 w/Rx	BP = 132/77 P = 75	BP = 135/74 P = 64	BP = 130/81 P = 81
Standing Blood Pressure (BPs) Standing Pulse (Ps)	BPs = 178/103 Ps = 92	BPs = 137/86 Ps = 79	BPs = 148/86 Ps = 70	BPs = 141/83 Ps = 87
Heart Rate (Standing) Ps bpm	Ps = 92	Ps = 79	Ps = 70	Ps = 87
Risk Profile	Very High BP not responding to Rx	High BP responding poorly to Rx	High BP responding poorly to Rx	Moderate Rx reduced to Amlodipine 5.0 since 30 days
Cardiac Efficiency	“Poor” Uncontrolled Blood Pressure	“Poor” Blood Pressure still high	“Poor” Blood Pressure still high	Fair
Renal Profile (Std. Reference Range)	* 12/07/2010			
Serum Creatinine (0.6 to 1.4 mg/dL)	0.7 mg/dL			
Serum Uric Acid (2.6 to 6.0 mg/dL)	3.30 mg/dL			
Blood Urea Nitrogen (BUN) (7.00 to 18.0 mg/dL)	13.0 mg/dL			
Cystatin C (0.53 to 0.95 mg/L) Optimum ≤ 0.7 mg/L				
Daily Protein Intake RDA = 1 g/Kg Body Weight	Good Nitrogen N₂ Balance			
Blood / Urine Sugar	## 12/07/2010			## 04/11/2011
Fasting Blood Sugar	267 mg/dL			155 mg/dL
Fasting Urine Sugar	Detected (+++)			Absent
Post Prandial	356 mg/dL			190 mg/dL
PP Urine Sugar	Detected (+++)			Absent
<p># Blood pressure not responding to antihypertensive prescription drugs (amlodipine 5.0 mg + Metoprolol ER 50.0 mg) indicates high cardiac risk profile. The prognosis is a stroke and / or kidney failure some time in the near future. Coupled with a history of diabetes, it is an indication of a serious intracellular magnesium deficiency.</p>				
<p>## Rx for Diabetes = Gliclazide 80 mg + Metformin HCl 500 mg (½ - ½ - 1)</p>				
<p>* Prior to starting detoxification and magnesium supplementation. First degree hypertension and type 2 diabetes was detected 15 years earlier.</p>				
<p>** After 8 weeks of complete body detoxification and rejuvenation with intracellular magnesium supplements. Blood pressure and heart rate finally responding to prescription medication.</p>				
<p>*** After 12 weeks of intracellular magnesium supplementation and completion of a standard complete body detoxification and rejuvenation program. Due to falling heart rate metoprolol ER 50 mg has been discontinued on an experimental basis to prevent bradycardia. Patient only to take amlodipine 5.0 mg</p>				
<p>**** After 16 weeks of intracellular magnesium supplementation and after 30 days of reduce Rx of amlodipine 5.0 mg we see a slight fall in systolic blood pressure. There is also a much better blood sugar control without any increase in anti-diabetic prescription medication. Situation to be reassessed on a monthly basis to ensure patient does not develop hypotension or low blood sugar due to present dose level of diabetic Rx.</p>				

**Table 6 - Case Study No. 4
Reversal of Primary Hypertension in Patient With Type 2 Diabetes**

Patient: Male, Age: 41, Height: 5ft 10 in., Weight: 214.2 lbs. (97.363 Kg.), Fat = 26.8% (++), BP = 136 / 85, Pulse = 92, BPs = 149 / 88 Pulse = 92 Diet: Meat Eater (H/o One Kidney) (Ref: AlfGir) with Rx = Losartan 50 mg + Hydrochlorothiazide (HCTZ) 12.5 mg				
Cardiac Profile (Standard Reference Range)	* 06/10/2010	** 09/14/2010	*** 12/16/2010	**** 03/10/2011
Blood Pressure (BP) (110/70) & Heart Rate (P) (70)	# BP = 136/85 P = 92 w/Rx	BP = 115/74 P = 78	BP = 122/77 P = 87	BP = 127/86 P = 77
Standing Blood Pressure (BPs) Standing Pulse (Ps)	BPs = 149/88 Ps = 92	BPs = 141/81 Ps = 95	BPs = 138/87 Ps = 89	BPs = 142/95 Ps = 79
Heart Rate (Standing) Ps bpm	Ps = 92	Ps = 95	Ps = 89	Ps = 79
Risk Profile	Very High BP & Heart Rate not responding to Rx	High BP & Heart Rate responding poorly to Rx	Fair BP & Heart Rate controlled w/o Rx for 40 days	Moderate Rx stopped since 120 days
Cardiac Efficiency	“Poor” Uncontrolled Blood Pressure & Heart Rate	“Poor” Heart Rate still on higher side	“Poor” Heart Rate still on higher side	“Poor” Heart Rate does not rise on exertion
Renal Profile (Standard Reference Range)	05/20/2008	01/21/2009	* 06/15/2010	**** 03/12/2011
Serum Creatinine (0.6 to 1.4 mg/dL)	1.3 mg/dL	1.4 mg/dL	1.50 mg/dL ↑	1.39 mg/dL
Serum Uric Acid (2.6 to 7.2 mg/dL)	6.6 mg/dL		6.30 mg/dL	5.50 mg/dL
Blood Urea Nitrogen (BUN) (7.00 to 18.0 mg/dL)	13.0 mg/dL		16.20 mg/dL	19.30 mg/dL ↑
Cystatin C (.53 to 0.95 mg/L) Optimum ≤ 0.7 mg/L				0.76 mg/L ↑
Daily Protein Intake RDA = 1 g/Kg 0Body Weight	Protein Sufficiency Good N ₂ levels		Protein Sufficiency Good N ₂ levels	Excessive Proteins High N ₂ levels
# Blood pressure and heart rate not responding to antihypertensive prescription drugs indicates very high cardiac risk profile. Coupled with a history of one kidney since childhood and chronic hypertension detected about 12 years earlier, the prognosis is a stroke and / or kidney failure some time in the near future. This is an indication of a serious intracellular magnesium deficiency.				
* Prior to starting detoxification. History of one kidney since childhood. High serum creatinine detected about 12 years back when it was around 1.4 mg/dL.				
** After 12 weeks of complete body detoxification and rejuvenation with intracellular magnesium supplements. Through dietary corrections (avoiding red meats and reducing carbohydrates and sugars) weight has been brought down to 197.0 lbs (89.545 Kg) and body fat to 25.1% (+). This is 1.7% ↓ reduction in body fat.				
*** After 24 weeks of intracellular magnesium supplementation and completion of a standard 8 week complete body detoxification and rejuvenation program. Fair blood pressure and heart rate control achieved with losartan 25 mg + HCTZ 6.25 mg since September 15 th and without losartan 50 mg + HCTZ 12.5 mg since middle November (the past 40 days). No further weight / body fat reduction.				
**** After 36 weeks: Good blood pressure and heart rate control achieved without antihypertensive prescription drugs since the past 120 days. Gradual reduction in serum creatinine to mid 2008 levels and reduction of serum uric acid from 6.6 to 5.5 mg/dL is an indication of the extent of repairs carried out to the only existing kidney in the body. No further weight / body fat reduction.				

Table 7 - Case Study No. 5
Reversal of Primary + Secondary Hypertension in
Patient With Renal Insufficiency, Only one Kidney
and History of Obesity - Body Fat = 26.8%(++)

Patient: Male, Age: 51, Height: 5ft 9 in., Weight: 218.6 lbs. (99.363 Kg.), Fat = 29.0% (++) BP = 123 / 75, Pulse = 77, BPs = 113 / 82 Pulse = 80 Diet: Predominantly Vegetarian (Ref: AvGu) H/o Smoking, Alcohol and Obesity (Very High Body Fat / Weight) with Rx = Telmisartan 40 mg + Atenolol 25 mg + Amlodipine 5.0 mg				
Cardiac Profile (Standard Reference Range)	* 07/06/2010	** 10/23/2010	*** 02/24/2011	**** 04/08/2011
Blood Pressure (BP) (110/70) & Heart Rate (P) (70)	# BP = 123/75 P = 77 w/Rx	BP = 124/75 P = 82	BP = 119/79 P = 77	BP = 121/81 P = 75
Standing Blood Pressure (BPs) Standing Pulse (Ps)	BPs = 113/82 Ps = 80	BPs = 115/77 Ps = 85	BPs = 116/82 Ps = 79	BPs = 120/84 Ps = 78
Heart Rate (Standing) Ps bpm	Ps = 80	# Ps = 85	# Ps = 79	# Ps = 78
Risk Profile	Very High BP controlled only through heavy Rx: Telmisartan 40mg + Atenolol 25 mg + Amlodipine 5 mg	High Rx reduced: Telmisartan 20mg since 35 days + Atenolol 25 mg + Amlodipine 5 mg	High Rx reduced: w/o Telmisartan since 120 days + Atenolol 25 mg + Amlodipine 5 mg	Moderate Rx reduced: w/o Telmisartan since 120 days + Atenolol 12.5 mg + Amlodipine 2.5 mg for 30 days
Cardiac Efficiency	"Poor" Blood Pressure controlled with Rx	"Poor" Blood Pressure controlled with Rx	"Poor" Heart Rate does not increase on exertion	"Fair" Blood Pressure & Heart Rate do not increase on exertion
Renal Profile (Standard Reference Range)	## 12/08/2007	## 11/28/2009		
Serum Creatinine (0.6 to 1.4 mg/dL)	1.0 mg/dL ↑	1.0 mg/dL ↑		
Serum Uric Acid (2.6 to 6.0 mg/dL)	4.5 mg/dL	6.0 mg/dL ↑		
Blood Urea Nitrogen (BUN) (7.00 to 18.0 mg/dL)	10.3 mg/dL	10.0 mg/dL		
Cystatin C (0.53 to 0.95 mg/L) Optimum ≤ 0.7 mg/L				
Daily Protein Intake RDA = 1 g/Kg Body Weight	Protein deficiency, Nitrogen Imbalance N ₂ ↓	Protein deficiency, Nitrogen Imbalance N ₂ ↓		
# Blood pressure and heart rate are responding only to very heavy antihypertensive prescription drugs taken since last 13 years. This indicates a very high cardiac risk profile. The Liver Function Test and Renal Profile of the patient show "Hepatic and Renal Impairment" caused due to the very prolonged use of numerous antihypertensive drugs. It is therefore recommended that alternative mode of blood pressure and heart rate control be explored at this stage to prevent any further deterioration of liver and kidney function.				
## History shows gradually increasing serum uric acid levels from 4.5 mg/dL in December 2007 to 6.0 mg/dL in Nov 2009 pointing to renal impairment due to prolonged exposure to numerous antihypertensive prescription medications taken in the past.				
* Prior to starting detoxification. History of hypertension since more than 13 years. This is an indication of a serious intracellular magnesium deficiency. Treatment started middle of August 2010.				
** After 8 weeks of complete body detoxification and rejuvenation with intracellular magnesium supplements.				
*** After 24 weeks of intracellular magnesium supplementation and extended kidney detoxification program.				
**** After 30 weeks of intracellular magnesium supplementation. No reduction in smoking (5 cigarettes per day), alcohol use (2 pegs twice or thrice a week) and reduction in body weight / fat has been implemented so far. Reduction in dependence on Rx has been solely achieved through kidney detoxification and intracellular nutrition.				

Table 8 - Case Study No. 6
Reversal of Primary + Secondary Hypertension in
Patient with Drug Induced Renal + Hepatic Impairment
and History of Smoking, Alcohol use and Obesity - Body Fat = 29.0%(++)

What is Intracellular Nutrition?

To understand the why and how of intracellular nutrition, let me explain a few important factors.

1. With the over cultivation of the land and the consequent falling nutritional value of the soil and hence of the food we eat, the human body has during the last 50 years progressively become malnourished. This has given rise to chronic ailments of all types. A method must be found to correct this deficiency in a very short span of time – few weeks or a few months. For more info: www.space-age.com/nutri-farm-seminar.doc
2. To achieve this
 - a) One must be able to administer nutrition in an organic form in therapeutic doses. Prophylactic doses presently available at the local pharmacy, chemist or health food store cannot however find any use here.
 - b) The doses administered must reach the intracellular space i.e. the center of the cell where nutrition is really required and not just the serum level as most prophylactic nutritional doses do.For more info: www.space-age.com/Multivitamin-FAQs.doc

To achieve this, one must have at one's command two technologies:

- 1) a capacity to alter cell membrane permeability; and
- 2) a carrier mechanism to carry nutrition to the center of the cell where it is required.

Let me explain the need for this in more simple terms.

Imagine, a time few hundred years ago, a soldier on horseback with a sword in his hand outside the thick walls of a fortress. By himself, the soldier will not be able to penetrate the thick walls of the fort. Now imagine canon balls being fired at the thick walls of the fort. These canon balls will soon create an opening in the walls of the fort through which the soldier will now be able to enter the fortress.

The canon balls have changed the permeability of the walls of the fortress. The horse is the carrier mechanism to help carry the soldier inside the fort. The soldier is the nutrition.

Orthomolecular nutrition when equipped with cell membrane permeability altering capabilities and further equipped with a carrier mechanism to easily carry the nutrition inside the cell to its center is the basis of intracellular nutrition. For info: www.space-age.com/Multivitamin-FAQs.doc

Now, we couple this with therapeutic doses of nutrition, which when correctly administered in a synergetic manner at intracellular levels, can help to free the body of chronic ailments like hypertension, diabetes, hormone imbalance, along with its connected diseases like hypothyroidism, prostate enlargement / inflammation and obesity. It can also help to repair hardened arteries, improve

the left ventricle ejection fraction (LVEF) of the heart and also repair minor damages to various other organs of the body with a fair degree of accuracy.

Which magnesium to use?

Do not use prophylactic dose of magnesium to correct intracellular magnesium deficiency. It is also not recommended to use inorganic magnesium salts like magnesium sulfate (also known as Epsom salts), magnesium chloride, magnesium hydroxide, magnesium oxide as these are not retained in the body and are readily excreted within a few hours of ingestion . Magnesium sulfate is also a strong laxative and cannot be administered at therapeutic dose levels. To be absorbed and retained in the body, magnesium must be in an organic form like a ascorbate, lactate, orotate, gluconate, etc. Elemental magnesium has to be coupled with a carrier mechanism to carry nutrition to the center of the cell where it is essentially required and with a cell membrane permeability enhancing mechanism to allow its easy passage to the center of the cell. In addition, magnesium must have other supporting nutrients which work in a synergistic manner. This is a special formulation designed to effectively alter intracellular magnesium levels and will not only be readily absorbed by the body, but also retained for prolonged periods to achieve a therapeutic effect, required to treat chronic diseases like hypertension or type 2 diabetes.

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