

## **Reversing Left Ventricular Hypertrophy (LVH) in Ischemic Heart Disease (IHD) patients**

Thiamine (vitamin B1) and magnesium play a very important part in reducing the severity of the symptoms of LVH in IHD patients.

For vitamins to work efficiently, and especially in the case of the entire range of B-Complex Vitamins, we should first ensure optimum levels of magnesium not only at serum levels but also at intracellular (RBC) levels.

While calcium helps muscles (including the heart muscles) to contract, magnesium helps muscles to relax. So having adequate levels of magnesium in the body is very important for the proper pumping action of the heart.

Again, Thiamin (vitamin B1) deficiency leads to heart enlargement. For Thiamin to work efficiently, it is advisable to take the entire range of B-Complex Vitamins from B1 to B12 as they work in conjunction with each other for energy metabolism. So taking a general B-Complex supplement is advisable to create a good foundation.

In addition, we need therapeutic doses of Thiamin (B1) and magnesium. Magnesium is required for the conversion of thiamin to its active form.

For the reversal of the symptoms of LVH, the daily intake of organically formulated minerals (which are administered in a synergistic manner with other supporting nutrients) must be as per the following therapeutic doses:

Thiamin (vitamin B1) – 10 mg twice a day for 2 to 3 months

Magnesium – 1000 mg in 3 or 4 equally divided doses for 6 to 12 months

These are therapeutic doses of nutrition which are specifically formulated to penetrate intracellular spaces where the nutrition is really required. This is known as Orthomolecular Medicine / Orthomolecular Nutrition. Doses mentioned above in mg are elemental weights.

Monitor your serum and RBC levels from time to time to ensure that you are actually raising the magnesium levels to the upper end of the Standard Reference Range:

**Serum Magnesium** = 1.8 to 3.0 mg/dL (0.7 mmol/L to 1.2 mmol/L)  
(as per Internationally accepted Standard Reference Range)

**Optimum Desirable Value:** 2.4 to 2.8 mg/dL (1.0 mmol/L to 1.2 mmol/L)  
(as per International Standards of Preventive and Anti-Aging Medicine)

### **Intracellular Magnesium**

(also known as RBC Magnesium / Erythrocyte Magnesium)

Standard Reference Range = = 4.2 mg/dL to 6.8 mg/dL (1.75 mmol/L to 2.8 mmol/L)

**Optimum Desirable Value** = 5.5 mg/dL to 6.0 mg/dL (2.3 mmol/L to 2.5 mmol/L)  
(as per International Standards of Preventive and Anti-Aging Medicine)

Make sure to discontinue magnesium supplementation for 7 days prior to drawing a blood sample to ensure that the values measured are the true retained values and are not skewed due to the recent supplements you took.

Also, check your renal profile to make sure that the serum mineral values reported in your blood report are not inflated due to poor filtration by the kidneys. To ensure your kidneys are working at optimum levels / efficiently, make sure your Renal Profile is as follows:

Creatinine = 0.8 mg/dL

Serum Uric Acid < 4.0 mg/dL

BUN ≈ 12.0 mg/dL

If these values are at the higher end of the reference range, it is possible that your mineral levels will appear above normal when they are really deficient.

If your protein intake is very poor, the Blood Urea Nitrogen (BUN) value will be at the lower end of the reference range. When this happens, protein based tests like creatinine will appear low and one may inadvertently pass this off as healthy kidneys when that is not the case.

If in doubt, about efficient working of the kidneys, do the Cystatin C test. This is a more sensitive test compared to a standard renal profile. Again this is a protein based test, so ensure adequate BUN levels to interpret the results of this test.

### **Optimum Desirable Value:**

Cystatin C = 0.7 mg/L

Blessings,

Pramod Vora

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